AMERICAN CINEMATOGRAPHER

FOR AMATEUR AND PROFESSIONAL PHOTOGRAPHERS

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Orchids for Toland

Vermejo, Empire in the Rockies
BLAISDELL

Scott Brings Bombing Films

Dramatic Scenario
CADARETTE

Projectionists Hold Final
CRAMER

Simplifying Makeup
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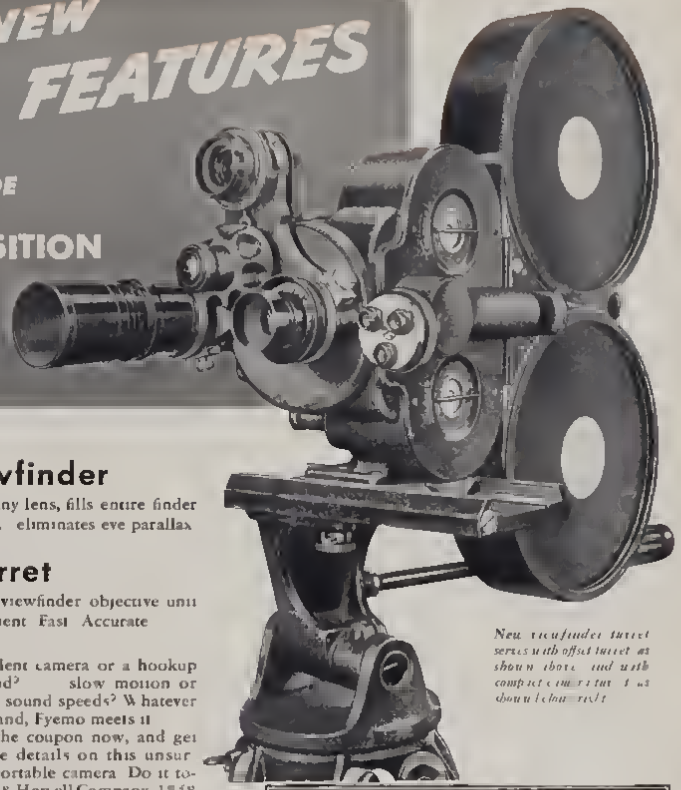

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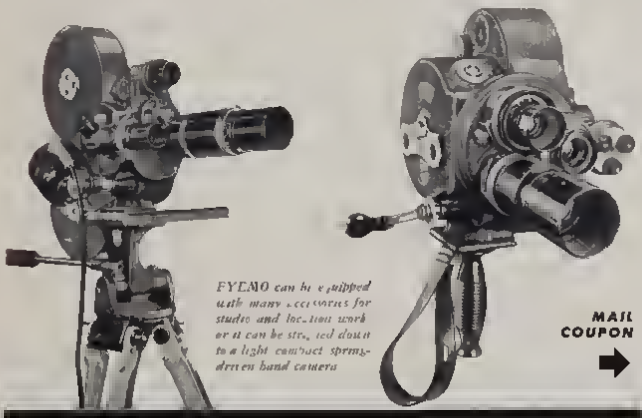

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The Front Cover

LEO TOVER, A S C, director of photography on Paramount's "I Wanted Wings," is fifty feet off the ground to catch a single plane in action against a background of Texas clouds. This was taken on a field auxiliary to Randolph, with equipment hauled in for miles to make it possible. Mitchell Leisen directs, with Brian Donlevy playing an instructor and William Holden starred as a flying cadet.

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Orchids for Toland

By George Blaisdell

Northwest Mounted Police

Cecil De Mille in the course of nearly thirty years has made something over sixty pictures. Some of them were really big ones. Among these were many spectacles. One of the first of the spectacles was "Joan the Woman," following "Carmen." That was twenty-five years ago. At the head of the players in those productions was Geraldine Farrar, opera singer, one of the most brilliant women ever to grace the screen.

Across the years there have been many notable successors to Farrar and to the several subjects in which she appeared. There have been many spectacles, which are simple to create. There also have been others with heart interest, which are not easy or simple to create. Seldom is it the two elements meet in one film. Nevertheless De Mille has done that in his latest picture, "Northwest Mounted Police."

This production of the North Woods is rare—in its beauty of natural settings, in the grandeur of the backgrounds unchanged by man, in the unforced, the natural, interpretations of the men and women in the cast, in the treatment of the story, the dialogue, the cutting—and in the photography.

As to the photography. In the first place it is Technicolor. Five A.S.C. men as well as their crews contributed to the execution of the work. These were Victor Milner, director of photography, W. Howard Green, Technicolor associate, Dewey Wrigley, second unit; Gordon Jennings and Farciot Edouart, special photographic effects. The photography is worthy of the natural beauty of the settings referred to—and of the men credited with it.

The head of the cast is Gary Cooper. In fifteen years this man has gone far, perhaps in no picture to quite the distance he attained in this last effort for De Mille. He portrays a man from Texas, a Ranger, a portrayal that will be as heartily accepted in Canada as in Texas. It is a human piece of work, of a man who fights hard—and stubbornly—as also he loves, who consoles himself that if he does lose the woman he gets what he came to Canada for—he gets his man who incidentally also was wanted by the Police.

•

The Long Voyage Home

Walter Wanger has made an unusual picture in "The Long Voyage Home." Without very clearly understanding how it could be made for the stage, it still seems more of a tale for the stage than of the screen. The story is adapted from four one-act plays. It is of the sea. More than that, it is of a tramp—as one of the sailors described the craft, "A bum." We pick it up with its crew aboard at a Southern port. The ship sails for the United States, where it takes on ammunition, or dynamite if you will, and sails. As the craft nears England, its destination, it is bombed and machine-gunned and one man is killed. But the ship reaches port.

There the members of the crew declare they are through with that ship. But one of the crew is shanghaied and one goes home to Sweden, to work on a farm. The remainder reship on another freighter. The theme of the story, which is Eugene O'Neill's, is that the ship comes home and sails again. The crew is partly broken up.

John Ford directs. It is the same man who made "Stagecoach." But the two stories are oceans apart. You may wonder why you sit so quietly through the hour and forty minutes of this picture's running, so enthralled, perhaps. This reporter did, also, but he doesn't know why. To be sure, there were two favorites of his, Tom Mitchell and Ian Hunter.

There is one phase of the picture, however, the memory of which will remain. That is the work of Gregg Toland, A.S.C. As sometimes happens, rarely happens, the very first shot on the screen is one to remember, till the day after, and the day after that. And these same notable shots are cropping up all through the story. By all means every one photographically inclined should see this picture, not once but again, to observe for himself how narrow is the margin between darkness and distinctness, or nearly so.

Special effects are under the guidance of R. T. Layton and Ray O. Binger, A.S.C. There were two spectacular instances of unusual work in this department—the drawing of a map or something around a human being crouched on a bulkhead. To be sure, the pencil employed was a machine gun and the operator of it was in a moving plane and the human being was sprawled on a moving vessel. But maybe that's a question for Einstein. The other instance was a near typhoon at sea. Either is sufficiently terrifying.

•

The Letter

Somerset Maugham's "The Letter" for the second time came to the screen this last month, this time from the Warner Brothers' studio and with Bette Davis in the top role. The first time was by Paramount nearly twelve years ago and incidentally it was one of the first of the talking pictures. Jeanne Eagles was in the top spot at that time.

It is a sombre, drab picture. In theme it qualifies most thoroughly as a Continental subject. A woman, presumably living happily with her husband, kills her lover because he has married a Eurasian woman. The latter finds a letter which makes certain the convi-

(Continued on Page 586)

NOTICE

With this issue George Blaisdell who for the past four years has served as Editor of The American Cinematographer, retires to devote himself to other fields of activity. He takes with him the sincere good wishes of the A. S. C. and its officers and members.

Succeeding him as Editor of this journal is William Stull, A.S.C., for more than eleven years a contributor to this magazine, and at one time its Associate Editor. Mr. Stull needs no introduction to the readers of this magazine, but it seems significant that The American Cinematographer should be one of the first if not actually the first technical journal of its kind to be actively headed by a man who is both a journalist and a technician, and who is, as Mr. Stull has been for many years, a member of the organization behind the magazine.

JOHN ARNOLD,
President of American Society of Cinematographers

In Saying Good-Bye

AFTER being closely associated with a reader for nearly four years not lightly or casually does an editor say good-bye—especially one who has done the whole job from office boy through the tricky stages to the final page revise. And though as a rule all the talking is done on one side there are occasional messages that squeeze through handing the editor encouragement or perhaps telling him where to head in. And he's glad to get these messages in any event.

The bound volumes of a publication bear mute testimony to the goings and comings of an editor—to other times and generations than his own. But really this is a good-bye, not an essay. And so let it be—to all the splendid friends the mail has brought, from as far as Australia.

G. B.

"Vermejo, Empire in the Rockies" Tale of Allure

By GEORGE BLAISDELL

Photographs by Harrison Chandler

Looking from living room of Crowell cabin toward mountains

DWELLERS in city streets, especially victims of the photographic or cinematographic bug, delight to indulge in daydreams of vacation excursions—of trips to fields afar, of hill and plain, of lake and stream, of old garb and new gear, of meals out in the open, of—just fishing and fish.

Harrison Chandler of Los Angeles has completed assembling 1100 feet of 16mm Kodachrome which he has titled "Vermejo, an Empire in the Rockies." Just to give it added lure and appeal, just to put an extra pull on the wishbone in the hand of the daydreamer, the picture has been set to music and to a commentary of perhaps four thousand words.

It is the setting of this picture that will excite the observer. It is Vermejo (j sounds as h) Park, an estate of baronial magnitude in the northeast corner of New Mexico, spreading across the border into Southern Colorado. Within the 350,000 acres of this ranch are approximately eight lakes besides the many streams to tempt the fisherman.

Really it is a cattle ranch, some ten thousand head being lost among the great reaches of the place. Several houses as extensive as hotels can accommodate many guests. The buildings are grouped in the shadow of the towering vermillion-hued cliffs, from the color of which Vermejo gets its name.

Six Months To Live

The ranch originally was part of the old Maxwell Grant. It was acquired by W. H. Bartlett of Chicago in the early 90s. Doctors had given him six months to live and he came West. Here in this park he spent the following eighteen years building a magnificent estate, which has come under other ownership in recent years.

The main buildings are the headquarters. In its heyday it was a self-sufficient principality in the heart of the Rocky Mountains, ranging from 7500 to 10,000 feet above sea level.

The first building is Casa Grande, former home of the lord of the manor. Among its many surprising features is or was a library of approximately 20,000 beautifully bound books. Looking at a row of these books which formerly rested at Vermejo they are among the finest examples of London's binding art.

The middle building was occupied by a son of the original owner. To give you an idea of its size, it has complete accommodations for sixty guests. The last building, which is now the only one in use, is occupied by the present lessee.

When the assembling of the film was started there was something like thirteen hundred feet uncut. Photographically there was a good level of quality. The film that was due to be discarded was negligible. That was on the exposure side. But in the building of a story there is the larger and far more important side of entertainment. Not all good exposure by any means is good entertainment.

Got Friends' Reaction

Mr. Chandler made tentative cuts and tried the results on his friends. He watched closely their reactions, as to whether they sat still and silently followed it or whether they turned and spoke to friends. If they manifested any degree of lessening interest he made a mental note of the spot in the film and took it for granted remedial action would be in order, that a fishing sequence was too long, perhaps, or some similar action.

When the length was pat it stood at 1100. It was with this picture Mr. Chandler encountered his first experience with sound. His sister and brother-in-law, Constance and Earl E. Crowe, who with him had formed the threesome of the trip, worked together on the comment, and then the commentator, Maurie Webster, edited it. At first the music was too loud and the voice was not loud enough.

In the end Synchro-Sound was taken on, and it

went right through the whole show, with excellent results

Mr. Chandler said he left home with the intention of making the picture of the trip. He had not been at the ranch for twelve years. His sister had visited it at various times and had taken some pictures of the place, but no really definite, planned photographing.

So it was decided to make a comprehensive script It was sufficient to give a total stranger an idea or even a good idea of what he had in mind. To be sure, he may not have followed it blindly, but he followed it fairly well. The continuity possessed sufficient fidelity to the original to create the ambition to go back again and remake the picture, either in whole or in part.

Rod or Camera?

Mr. Chandler's companions on the trip, as said before his sister and brother-in-law, were inclined to demur at being what they described as "ordered around" in the carrying out of the script, but on seeing the screened product smilingly agreed that all was forgiven, they were glad they had had a chance to do their part.

Asked as to how he arranged the order of his fishing and his camera work, Mr. Chandler said he had settled that his first day in camp. He had left his camera behind and had taken along his rod, determined to get the heavier and the controlling part of fishing out of his system first. That policy had worked out to good advantage

When his camera was not with him fishing was supreme—and only. When his camera was with him his fishing rod was background—just necessary scenery, that is, almost

The picture opens with the arrival of the photographer-fisherman in Trinidad, the spot appointed for meeting his companions. The strangely quiet railway platform concealed a hell-raisin', rip-roarin' town. The companions were on time, coming in over the Santa Fe Trail to rescue the earlier arrival from the possibility of being exposed to wild frontier influences.

Scenery Piles Up

Vermejo Park was but sixty miles away. "The car speeds along," as the commentator explains. "through village, hamlet and farm, penetrating deeper and deeper into this rugged, mountainous country, over which the fur traders and adventurous pioneers of the old Santa Fe Trail once laboriously made their way.

"That jagged battlement of rock you see ahead is the Great Stone Wall, said to be part of a singular geological formation that may be traced from the Canadian Rockies through the United States and into Mexico."

Even before the party has reached Vermejo the scenery is piling up. The Kodachrome comes into its own when it is turned loose in the open. The

Front porch of Cresmer cabin

Mr Crowe, left, and William (Bill) Cresmer.

Looking at the Sangre de Cristo range from porch.

Camera catches Photographer Chandler in afternoon shot.

picture shows the buildings of the ranch, and about a mile down the road from headquarters are the United States Post Office, the general store and other buildings which serve as a gathering place for ranch employes after work is done

The picture takes us now across country to Bernal Lake, where the expedition plans to establish its base. But that base waits on doing a bit of road work, so their heavily laden car won't leave part of its transmission or what have you on a rock

Conversational Touch

The cabin which shelters the base is about fourteen miles from headquarters—we are dealing in miles when being a part of 350,000 acres. It is nearly hidden in a forest of towering pines A short distance below is the lake, shimmering in the sunlight On all sides the lush green of the woods presents an ever-changing picture of light and shade

The screen reveals the detail through which the members of the expedition have to go The luggage is moved into the rarely used cabin There are flies to be inspected and discussed. How are the fish biting and on what? Lines must be greased, so that they will spin off the reel more easily and float upon the water Every one must ready his or her own tackle.

There is something unusually worth while in the comment bestowed on this film. It has a conversational, an intimate, touch throughout. Strangers may be in the audience, but they do not feel strange toward the participants Note the manner of introducing Reel 2:

Preliminaries Over

"The preliminaries are over at last. Connie and Earl, well laden with equipment, head down the hill for the boat landing

"The gear is stowed aboard and they set forth in search of high adventure. What will happen? Did they decide on the right flies? What does Connie really think as she looks into the still waters of Bernal Lake? Will Earl hook the fish of his dreams? . . . Stay tuned in to this projector for the next episode, which will follow in just a moment."

Episode 2 of "Vermejo, an Empire in the Rockies," opens with the two fishermen in the middle of the lake, all set Expert casting is rewarded by the first fish, a rainbow, and pretty fair-sized, too. The average are from 9 to 18 inches in length

Visitors are somewhat rare in these wild spots, so the picture shows the gayety that follows the arrival at Vermejo of the Coberleys of Los Angeles, "Winnie and Bill" There was great interest in the arrival, too, of a newspaper, the latest—"surprisingly enough, it turns out to be a copy of The Times."

A picnic is suggested, so the entire party may see more of the wonders of the park. St Mary's Lake is chosen. Here is where the real out-door revelation of the entire film takes place. It is a most strongly

Vermejo ranch

Mr and Mrs Coberley operate at the business or supply end of the ox cart

View of driver and side of car

Complete side view

constructed truck, bearing the inscription of "Vermejo Ox Cart."

The commentator describes the truck as "the brainchild of Bill Coberley and the likes of which you have never seen before. A masterpiece of ingenuity, it has practically all the comforts of home upon its chassis, plus a few that home doesn't boast. The rear compartment is the feature that will make your mouth water. It's as well stocked as any good housewife's kitchen, for not a thing in the way of supplies and equipment has been overlooked It is so compact and convenient that it seems to take only a few moments to turn out a supply of victuals fit for a king"

Mr Coberley was a guest at the ranch in 1939 and got tangled in the mud, with the result he had to walk miles He designed and in his own cellar built compartments for an International truck, designed not only for a complete commissary but also devices for the relief of a driver having road trouble of any kind of delay.

The spirit of the hills rides in

Pictures of Vermejo headquarters buildings on this page

the picture, and some of it creeps into the consciousness of the beholder. Let's tune in:

"The sun is dropping, and it's back to Bernal Lake, where the Maestro takes time out to meditate in the gathering dusk . . . As the chill of the New Mexico night creeps over the nearby mountain tops our hardy adventurers relax, to dream before the warming glow of their fire."

Owing to transportation difficulties over the Vermejo roads in a city car the Coberleys contribute their sturdy, high-wheeled ox cart for future treks, so the expedition is off again The next stop is the cabin of the Will Cresmers of Chicago—Range Retreat it is called It is situated on a vega dominated by Ash Mountain in the rear and faces, in the distance, the cloud-capped Sangre de Cristo Mountains.

Fishing continues, in Leandro Creek this time, in a setting of slender quaking aspen, or as the natives delightfully refer to it, "Quakinaspen." There are more fish, and coffee, and flapjacks—what food and what appetites!

Ten Thousand Feet

In the opening of Reel 3 we are again at Vermejo Park, with the expeditionary force exploring the Costilla country—up on top, the old-timers describe it—"a primitive expanse of turquoise skies, shimmering aspen, singing streams and sweeping vegas." Over ten thousand feet elevation, testing the lung capacity of the hardened, "let alone a gang of softies"

While now they are in the most inaccessible of all the cabins at Vermejo, there are many of civilization's conveniences—hot and cold running water, two showers and inside plumbing.

The film shows a layout of fish that, packed in dry ice, is destined to make a trip across the desert to Los Angeles proving to friends the sort of fishermen the absentees are It is a tempting mess

Many feet are devoted to showing what the beavers can do in the

(Continued on Page 541)

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Rey Scott Brings China Bombing Pictures

Photo in 16mm Kodachrome by Rey Scott

REY SCOTT, cameraman, war correspondent, explorer and lecturer, has made four trips to China since the outbreak of Sino-Japanese hostilities in 1937. Last May he was commissioned by Life magazine and Pathe Newsreel to make pictures for them in China.

He left the United States on June 1 and arrived in Hongkong June 22. For a month he used his cameras around the fortifications near Hongkong, with the active aid and co-operation of the British. His were the first pictures to be taken of the activities on the border between Hongkong and Japanese-occupied territory.

After a month in and around Hongkong Scott took a plane of the China National Aviation Corporation for Chungking. The company is owned 50 percent by Pan-American and 50 percent by the Nationalist Government. Two of these planes have been shot down by the Japanese in the last year.

Once about a year ago a plane was shot down and all the passengers were killed but the pilot escaped. This last month a plane with ten passengers and an American pilot—a Los Angeles man, by the way—was shot down. All were killed.

These experiences have made the aviation company more wary. The passengers are not notified of the starting time until after dark, probably after midnight. Then they do not follow any regular routine. At Chungking the landing field is on an island in the Yangtze River.

Scott has brought back nearly 10,000 feet of Kodachrome. This is divided into three stories. Two of these are documentaries of life in China, including "China's Comeback," the first all-color China documentary. The other is a rare film. It is Chungking under bombing. The bombing picture and the last documentary have been edited by Hal Hall.

The bombing covered two days. It is said Japan had announced the city would be bombed for seven straight days. Actually the assault lasted but two days. It is believed that at the end of the two days there may not have been enough buildings standing to justify a third thousand-mile trip.

Rey Scott, left, and Nelson T. Johnson, American Ambassador, in the American Embassy opposite Chungking.

The bombing beggars description. Eight hundred yards of river runs between the two banks. Chungking is built upon the side of a hill, a long hill and a high one. There is another hill on the opposite side, at the crest of which is the United States Embassy. A United States gunboat is at the foot of the long hill below the embassy.

More than 400 bombproofs dot Chungking. The town is ideal for defense. The many hideouts or dugouts are cut from the solid rock. A late gazeteer in the office where this is written gives the population of Chungking as 635,000.

Scene of the bombing of Chungking and of the subsequent fire.

Some of these, of course have been killed and many thousands have left the city At the time the city was raided last August Scott was given to understand the population was 240,000 It is the home of the nationalist government Generalissimo Chiang Kai-shek has his quarters in the city

When the Japanese planes set sail from their headquarters by the coast word is telegraphed to Chungking The people of the city get the word A balloon is raised to a point where it may be seen by all When the planes cross the border of the province a second balloon is raised Then their arrival is due almost any minute As the second balloon is put in place the city is in motion

Ferries are crossing the river, taking the people to the shore so they may climb the sharp sides of the hill and make escape to the points beyond the area of danger Finally the planes are in sight, in waves of thirty. Nearly two hundred appeared on the first day and 170 on the second

They come over the river and begin dropping their loads as they reach the water From 12,000 feet in the air they splash all around the United States gunboat Then they begin again as the planes cross the river Scott posted himself at the grounds of the United States Embassy and had a clear field of the frightful operations of the Japanese. He looked right down upon it, across and above.

You see the flash of the bombs and the slow following of the flame, which gradually grows until it covers a hill

At the planes come in squadrons so do the flames spread over the city The smoke billows higher and higher The burned out people seek shelter when apparently the dugouts are filled

The older seem to be at the end of their rope With them hope is gone. With the younger as a rule it seems to be all in a day's work No business is attempted when a raid is on, but when the raiders pass the throngs pour out of the dugouts

Practically all dugouts are with two entrances, like a rabbit warren. Some are equipped with electric lights, telephone connections and wireless

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Vermejo Empire in the Rockies

(Continued from Page 538)

way of engineering It is an unusually interesting and entertaining sequence.

Just before the sunset and the fadeout there is a remarkable picture of an old beaver who in the dusk swims back and forth across a stream, apparently seeking a glimpse of the camera which is recording his movements. At the slightest reaction of the two bystanders there is a warning flip of his big flat tail and he dives below the surface.

The picture has you securely in its grasp as it draws to a close. "It's eternal spring in this land, where the blue of the sky crowns the glory of the distant mountain peaks," says the commentator as his voice gives just a suggestion of coming to a close "There's a real thrill in the mile after mile of Nature's handiwork.

"But the sun sets, to end the summer's adventure, and another colorful chapter of this vast Empire of Vermejo in the Rockies"

Photographed in Chungking

FATHER MEEUS AT CHUNGKING

FATHER CHARLES F MEEUS, the Belgian priest who took up his life's duties in China and in the course of his work visited the United States, was well when Ray Scott left Chungking this last fall Father Meeus returned to China from Los Angeles last June and went directly to Shanghai There he was ordered by his Bishop to leave that city and go into free China As it had been his intention before sailing for the Orient to visit Chungking he took up his temporary residence in that bomb-ridden city.

Father Meeus was in the United States for more than a year In the course of his stay he was engaged in work for the benefit of his "Boys," several hundred of whom were in his care In this country he visited all parts He brought his own motion pictures with him, and these he showed and lectured on them, telling of the work and play of his boys He made thousands of friends, personal friends, who will be waiting for his return at the end of five or six or seven years as the case may be.

The priest's comparative youth cannot prevent the conviction he is destined to go far in his career as a man of God Born and reared in wealth, he chose to take his course among the world's humblest and poorest—as well as the greatest—to make their life his life. He is overflowing with friendliness and humanity.

He has become a citizen of China. In that added capacity he will be a credit to his adopted country and a tower of strength and influence to the men and women and particularly to the man and woman who are trying to build a mighty China out of one that has been sorely beset

TOLAND PRAISED FOR "LONG VOYAGE HOME"

GREGG TOLAND did the usual thing in the way of acquiring honors for the photographic poll for October. Not only with a black and white subject did he nose out one contender that was in Technicolor. He nosed out two. And both of these color pictures were "there." They were "Northwest Mounted Police" and "Down Argentine Way." The accredited men on the two color pictures were Victor Milner and W. Howard Green on the first named and Leon Shamroy and Ray Rennahan on the second.

Gregg Toland's subject was "The Long Voyage Home." It was one of those examples of photography which extended to the rating on the quality of the picture and to the quality of the direction. We know that is so because the correspondents rated it the best picture and also the best directed picture. Aside from the photography the picture was not awarded the best screenplay, the best actor or actress performance, the best supporting actor or actress performance, the best musical score, the best original song, or any of the factors on which to base a great picture.

Let us take away from the picture the superb photography which it rated. Let us yield it average quality, the same quality that the run of the mine hits every week, say 98 or 99 out of 100, and the picture would not only not have been the best picture. It would not have rated perhaps a mention. And with two of the highest class Technicolor productions in the same bag with it? Not a chance. Toland's triumph in October is one of the greatest in nearly three years.

As said before, "The Long Voyage Home" was voted the best picture and the best direction, with bouquets to John Ford, the veteran who among his other accomplishments is a good picker of a camera chief. The best screenplay was voted to be "Arise, My Love," with Charles Brackett and Billy Wilder (Paramount). The best actress performance was that of Carole Lombard in RKO's "They Knew What They Wanted." And truly it would be difficult to name a better.

The best actor performance was awarded to Charles Chaplin in his own "The Great Dictator," and Jack Oakie was given the best supporting actor performance for his work in the same show. With Chaplin that verdict will be popular, exceedingly. And why not with Jack Oakie? Jack was serious for once in his life. He knew he had a great opportunity—and he went to it.

Nazimova was given the best supporting actress performance for her work in MGM's "Escape." The great actress must have wondered why it was so ordained when the great part of her time before the camera she had the role of a dead woman. Micha Auer took honors for Universal's "Seven Sinners."

Emil Newman was credited with the best musical score for "Down Argentine Way" (Twentieth Fox) and to the composer of the song of the same name went similar honors. MGM's "Hullabaloo" was voted the best feature.

Presto Synchro-Sound for 8mm. as Well as 16mm. Film

The Presto Synchro Sound System is announced by the Presto Recording Corporation of New York as not only applicable to 16mm but also to 8mm. It is stated to be possible to produce either of these sizes at a material reduction in cost for sound film production. Perfect "lip synchronization" is said to be maintained between sound on-disk recordings and silent film. High praise is bestowed on the result of use in conjunction with the Presto Recorder and an ordinary silent projector. The quality of sound recording and accuracy of synchronization is described as unusually good.

The Presto Synchro-Sound recording equipment can be carried conveniently. It presents no intricate problems in the production of amateur or professional pictures. Sound can be edited and re-recorded at will on to other disks or on to film. Synchronized sound can be recorded on Presto master records from which pressings can be made in any required quantity for distribution with prints of the original film.

Picturemakers will be enabled to add dialogue and genuine synchronized effects to pictures without perceptible increase in production costs. Synchronized sound for a five-minute sequence can be placed on one twelve-inch Presto disk costing $1. The disks required for recording 15 minutes of continuous synchronized sound cost from $2 to $5, depending on the type of production.

NORFOLK AND WESTERN MADE IN DOCUMENTARY

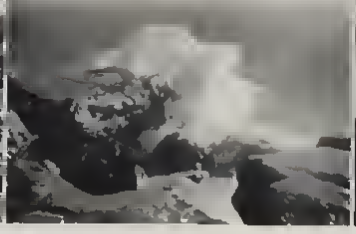
Completion of a dramatic new color and sound motion picture, "The Power Behind the Nation," which tells the story of bituminous coal, was announced today by the Norfolk and Western Railway Company.

The movie depicts the importance of the bituminous coal industry to the economic life of the Nation, and shows the various phases of coal production. Scenes in full color picture the origin of coal, mining, processing, transportation, distribution, uses as a fuel and as a source of countless valuable by-products.

Railway officials said the film will be shown at coal meetings, N & W employe Better Service clubs, conventions, civic clubs, schools, colleges and all other functions where coal and rail transportation is of interest.

In production eight months, the 16 mm Kodachrome film, which runs approximately thirty-eight minutes, has been narrated by Bob Trout, well known Columbia Broadcasting System news commentator.

A special cameraman employed by the N & W. traveled more than 15,000 miles in order to get accurate shots of mines, tipples, trains, boats, factories, and homes—everything to portray bituminous coal as "The Power Behind the Nation." It is understood this is the first time color moving pictures have been taken in the interior of a coal mine, thousands of feet below ground.



DO IT TODAY!

SEND IN YOUR ENTRY FOR THE

DA-LITE
(Reg U S Pat Off)

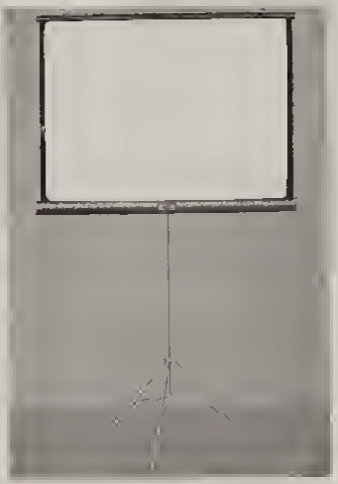
Screen Naming CONTEST!

AND YOU MAY WIN $200.00

$1050 IN 139 PRIZES

Used as a Hanging Screen

Used as a Table Model



Used as a Tripod Screen

FIRST PRIZE CASH $200.00

3 SECOND PRIZES CASH, EACH $40.00

10 Third Prizes of Da Lite Projector Stands, Retail Price Each $18.00*

These stands are adjustable in height and have tilting rotating platform

25 Fourth Prizes of Da-Lite No 2 Unipads Retail Price Each $6.00*

This popular camera support has a [illegible] and is adjustable in height

100 Fifth Prizes of Da-Lite 22 x30 Junior Screens Retail Price Each $4.00*

This has Da-Lite's Glass Beaded screen surface and special two-ply sarring wire support for setting up on a desk or table

THREE SCREENS IN ONE - 30" x 40" $7.50*

Contest closes December 31, 1940. So, if you want to win that $200.00 first prize, send in your entry today! Nothing to buy. All you do is suggest a name for Da-Lite's new low-priced triple-duty screen.

These facts about the screen will help you in selecting an appropriate name. It is a triple duty screen that can be used as (1) a tripod screen, (2) a map-type hanging screen, or (3) a table screen. The surface is Da-Lite's famous Glass-Beadrd surface, which reflects more light and stays white longer than any other white surface. This screen (a 30" x 40" size) with case, folding tripod and special Da-Lite two-ply spring support for setting up on table sells for only $7.50*. This is the first time that a screen of this size, style and quality, has ever been offered for so low a price. See this new Da-Lite Screen at your dealer's! Ask him for entry blanks. There will be 139 prizes totalling $1050.00 and you may win one of them. Send your entry today to *Da-Lite Screen Contest Editor, 215 N. Michigan Ave., Chicago, Ill.*

**Prices slightly higher in Pacific Coast*

DA-LITE SCREEN CO., INC.

Dept 12AC 2723 North Crawford Avenue Chicago Illinois

FOLLOW THESE EASY RULES!

1 Suggest a name for DA LITE'S NEW GLASS BEADED combination three Tripod—Hanging—Table screen and give in 25 words or less your reason why you think this name is best.

2 Send in as many entries as you wish Mail to DA LITE Screen Contest Editor 215 N Michigan Ave Chicago, Illinois

The contest closes December 31st 1940 Your entries must be postmarked not later than midnight December 31st and must be received by us within ten days

3 An independent experienced contest organization will have complete charge of the contest. They will judge all entries from the standpoint of originality uniqueness and practicability of the name suggested [illegible] with the [illegible]

reason for recommending it. Decision of judges will be final In case of ties duplicate prizes will be awarded All entries become the property of DA LITE Screen Company Inc Chicago, Ill N entry will be returned

5 Any one living in continental United States may compete, except employees of DA LITE Screen Company, Inc and its advertising agencies or their families This contest is subject to Federal State and Local regulations.

6 Prizes with a total value of $1,000 will be awarded First prize is $200.00 cash See complete list of prizes at upper right.

7 All winners will be notified by mail A complete list of the winners will be sent on request of [illegible]

ENTRY BLANK *Mail Now!*

CONTEST CLOSES DECEMBER 31, 1940

DA-LITE SCREEN CONTEST EDITOR Date
Dept 12 A C
215 N Michigan Avenue Chicago Ill
[illegible] new Da-Lite Glass Beaded Tripod [illegible]

[illegible]
My [illegible] is
[illegible] [illegible] [illegible] 25 words or less

NAME
ADDRESS
CITY STATE
NAME OF DEALER

DRAMATIC SCENARIO FOR LOW KEY LIGHTING

By CLAUDE W. CADARETTE

FADE IN

Main Title, "A Mother's Ordeal"
Sub Title, Cast
The Mother ———
The Son ———
Detective ———
Sub Title
Directed by ———
Camera ———

FADE OUT

FADE IN (Sequence No 1)

Scene 1—Exterior of an old farmhouse with chickens or other livestock in fore ground An old lady enters from right with pail in her hand She places the pail on the porch and faces toward camera

Scene 2—Closeup Three quarter view of face of the mother as she wipes her face with her apron She appears tired and worn

Scene 3—Medium shot The mother turns and enters the door

Scene 4—(Interior of farmhouse The furnishings are crude, but the appearance reflects neatness A table with a kerosene lamp on it is in the center of the room A checkered red and white cloth or oil cloth can be used A picture of a young man and a Bible are also on the table A tall cupboard can be seen on a side wall Any cabinet that is large enough to enable a man to enter it is suitable. An old fashioned rocking chair is by the table)

The mother enters the room, which is seemingly lighted from the kerosene lamp, and sits in the chair She takes the Bible from the table

Scene 5—Semi-closeup The mother picks up the boy's picture and faintly smiles, then replaces the picture and opens the Bible to read

FADE OUT

FADE IN (Sequence No 11)

Scene 1—The man is seen running down a dark alley-way carrying a small suitcase. He intermittently pauses behind a post or pile of boxes as though he is pursued He emerges from a shadowed place and runs toward the camera At a closeup position he pauses and we recognize him as the same boy as in the picture at the farmhouse He is excited and appears frightened As he leaves the camera, two figures in the distance are seen running in pursuit of the boy

Scene 2—Long shot (Exterior of farmhouse) A figure is seen running to the farmhouse and on the porch He pounds on the door

Scene 3 Medium shot The mother looks up from her Bible toward the door

Scene 4—Semi-medium shot The mother opens the door and the boy enters, very excited. He closes the door and bolts it The mother is happy, but senses something is wrong She attempts to kiss the boy, but he steps to the table and places the suitcase on it The cover of the case falls open, and papers that appear to be bonds and wrapped currency fall across the table, The boy hurries to try to hide this sight from his mother, but she picks up some of the packages and looks to her son for an answer to this.

Scene 5—The mother and boy are seated at the table talking earnestly to each other

Scene 6—Cut a series of facial closeups of each character back and forth to catch the serious expressions on the faces as the boy explains he has robbed a bank

Scene 7—Long shot The mother stands up grief-stricken and assumes an attitude of prayer The boy holds his head in his hands

Scene 8—Closeup The mother is praying as she looks up. Suddenly she looks toward the door.

Scene 9—Exterior-medium shot. Two men on the porch are knocking on the door

Scene 10—Interior The mother and son look toward the door Suddenly she opens the door to the cupboard and pushes her son into the cabinet She then goes to the door and opens it. The two men enter, showing their detective badges They see the money on the table and the boy's picture

Scene 11—Semi closeup The detective asks the mother where the boy is hiding, pointing to the picture

Tri-City Cinema Club

The Tri-City Cinema Club (Davenport, Rock Island, Moline) held its regular meeting November 7 in Rock Island There was a fifteen-minute talk and question and answer by R Fawn Mitchell of the Victor Animatograph Company of Davenport Dr James Dunn of Davenport showed a thousand feet of Kodachrome covering a route from Hollywood to San Francisco

In the annual contest award for June the footage has been increased from 100 to 200 feet for 16mm and from 50 to 100 feet for 8mm

Scene 12—Long shot The two detectives are questioning the mother and looking over the bonds One detective draws his gun and aims it at the cabinet door The mother runs to the cabinet and stands in front of the door, imploring him not to shoot

Scene 13—Closeup of detectives telling the mother to step aside

Scene 14—Closeup of the mother, very distraught, pleading for mercy and not to shoot Her face then changes as she realizes the crime her son has committed and she assumes a determined attitude

Scene 15—Long shot The mother walks to the detective and takes the gun from his hand, and turns toward the cabinet door

Scene 16—Closeup The mother is murmuring a prayer

Scene 17—Semi-medium shot The mother lifts the gun and shoots three times into the cabinet, then turns to the detective and returns the gun to him She then goes to the table and picks up the boy's picture and lifts her eyes up as in prayer.

Scene 18—Semi-medium shot The two detectives stand looking at the mother and slowly remove their hats and bow their heads

Scene 19—Closeup. The mother is praying, tears in her eyes as she clasps the boy's picture to her Slowly fade out

---

This is a scenario wherein the action of the players and their expressive ability can eliminate the use of spoken sub-titles The interior of the farmhouse can be set up in any garage, as only rough furnishings are necessary.

The strength of the story will depend greatly on good editing and close cutting of the scenes Select characters who are exceptionally good at expressing their emotions with facial expressions, as any dramatic picture requires this type of people Add any human interest shots that arise during the taking of the picture

Keep the lighting in low key with deep shadows to increase the dramatic effect. Fill in some of the actions with closeups of hands, or objects pertinent to the story, but do not fail to use these closeups except as short intimate view for emphasis Closeups of faces must be of sufficient length to allow the expressions to tell the story

Select heavy, dramatic music for the background during projection, and I am sure that you will entertain your audience thoroughly with this story

Projectionists Hold Final Salon for 1940

By PAUL R. CRAMER

Edwin McQuaid's "Marsha," best picture of year in Finalists' Class

As you have probably noticed from past issues of this magazine the final salon of the Southern California Projectionists Camera Club for 1940 was held November 7 at our own clubrooms at 1489 West Washington Boulevard. This time more than 150 prize winning prints were exhibited. Of these pictures the judges selected the portrait "Model," by George Stewart. This portrait was given the award for the best picture of the year of all classes.

The judges for the special occasion were John Nickolaus, chief of the MGM Laboratory, Larry Kronquist, head of the Douglas Aircraft Art Department, Al (Whitey) Schaefer, head still photography, Columbia Studio, and Ray Jones, head Still Department, Universal Studio.

The members of the jury worked hard and faithfully and the Projectionists certainly were appreciative of the time and patience expended on the awards. They expressed that appreciation, not only individually but collectively.

In judging the prints our judges, headed by John Nickolaus, explained to the group that it was almost impossible to pick one portrait from 150 prints of various types and classes, but that in selecting George Stewart's "Model" he had taken into consideration the complete year's work of Mr. Stewart.

The readers will no doubt go back to our first salon of children showing George Stewart's first print on "Repairs." This was followed by his prize winning table top "The Wrong Hencoop" and then finally his prize winning print "Model."

These will show you the unusual ability of Mr. Stewart. In each and every

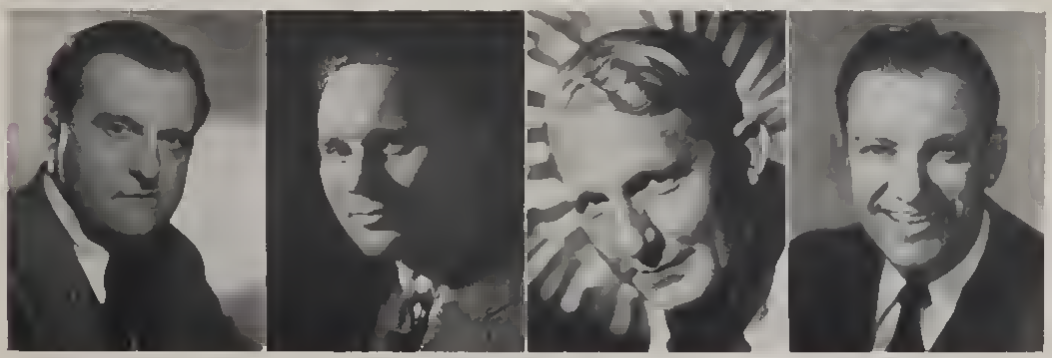
JURY FOR ANNUAL SALON OF SOUTHERN CALIFORNIA PROJECTIONISTS' CAMERA CLUB

John Nickolaus
Chief MGM Laboratory
Photo Clarence Sinclair Bull, MGM

Larry Kronquist
Head Douglas Aircraft Art Department

Al (Whitey) Schaefer
Head Still Photography
Columbia Studio

Ray Jones
Head Still Department
Universal Studio



print that he had exhibited he has gone out of his way to create something new and something different In using the standard method of getting table tops, children or portraits, he has gone into the creative end of photography If you are in a position to do so, kindly refer to the August, 1940, issue of this magazine, Page 366, for one of his best prints We are reproducing part of it here to show you how it was done at that time Because the policy of the magazine has never permitted the printing of undraped figures, we are sorry that 'The Model" must be omitted from this publication

Edwin McQuoid's print "Marsha" was awarded best picture of the year in Finalists' class because of the clarity, the workmanship and the absolute freshness of the print This print shows clearly that McQuoid understands his lighting to the nth degree In July Ed McQuoid was awarded first prize for his print of "Philip Ahn," Page 365, of the August, 1940, issue, and at that time his prize winning print "Marsha" was only given honorable mention The above judges, however, after going over the field, decided to reverse this decision and award the grand prize for Finalists class to the accompanying print "Marsha"

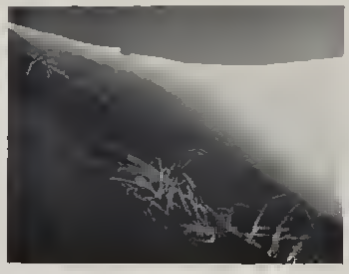
Lee Lindley's print "Sea Fury" was awarded the best picture of the year in class A, and has become nationally

Lee Lindley's winning print of "Sea Fury" awarded best picture of the year in Class A

famous by virtue of its hanging in the Douglas Exhibit in the New York World's Fair, but all one has to do is to analyze the print thoroughly and you can understand why it was sent there

As Lindley explained at the first showing of the print in August, it took him all day to get this picture First it was necessary to wait for high tide, and then to get the correct lighting on the water at the proper angle for good composition, practically on the rocks

Paul Neuerberg's "Devil's Playground," awarded by jury best picture of the year in Class B



Of course it was necessary to use a filter to darken the skies He used a 23A filter which brought a sharp contrast between the sky and the water

As Lindley further explained, this negative was deliberately overexposed and slightly underdeveloped in D72, which had been diluted to four parts of water to one part solution The unusual part of the developing of this negative is that it was developed at 70 degrees in a tray for only two and one-half minutes This is a decidedly unusual method of handling film, but the results were perfect as you can see

Paul Neuerberg's "Devil's Playground" won best picture of the year in class B Taken in the Devil's Playground, located in the High Sierras, it shows a typical view of that portion of California The greatest difficulty to be surmounted in obtaining this picture was to be there and fully prepared at the exact moment the sun cast the shadows on the sundial grass in the foreground of the picture. For further reference see November, 1940, issue, Page 518.

The next meeting of this camera club will be held Thursday, December 5, at 10 a m at Brittingham's Cafe, 6113 Sunset Blvd This will be a breakfast business meeting, including election of officers and the revision of the rules and regulations pertaining to classifications and salon showings

WARNERS' "VITASOUND" PRAISED AT SHOWING

THE practicable perfection of "Vitasound," Hollywood's latest improvement of the talking screen, was demonstrated by Warner Brothers' studios, originators of the Vitaphone process, during the latter part of November.

Developed in the Warner laboratories during the past five years, with the cooperation of RCA engineers, the new sound process represents improvements in both recording and projection techniques. It is claimed by interested experts to offer completely faithful reproduction of original sounds without violent and expensive changes in theatre or studio equipment, and to give an audience the benefit of every shade of tone and volume found in the original sound.

Vitasound, according to the engineers, will not upset long established theatre practices nor antiquate all the theatre and studio equipment in the industry. It is said to be neither too complicated nor too expensive for general use.

A second sound track on the release print regulates sound control and makes possible startling improvement in results in the theatre. The only added expense involved is a $40 attachment on printing machines and a probable $1500 investment for additional amplifiers and horns in the theatre.

"The new control track method," according to Major Nathan Levinson of the studio sound department, "is advantageous in that it requires no additional equipment or change in technique in the shooting of pictures. Even the difficult 'dubbing' process is unchanged because the sound control track is printed directly on release prints as they are run through the sound printers. This control track does not affect the reproduction of sound in theatres not equipped with Vitasound and, conversely, ordinary prints will play normally through new equipment in the theatre without actuating the control track mechanism."

The device has been demonstrated before the Research Council of the Academy of Motion Picture Arts and Sciences.

Warner Brothers' Hollywood and Downtown Theatres in Los Angeles, and the Strand Theatre in New York will be the first to have Vitasound. Other Warner theatres will be equipped with Vitasound as fast as possible.

In order to make Vitasound available as soon as possible to all producers and exhibitors desiring to take advantage of it, RCA has requested the Research Council of the Motion Picture Academy of Arts and Sciences to establish standards of manufacture at the earliest possible date.

Seven Subjects Shown

At the demonstration, which was held in the studio in Burbank, Mr. Levinson gave a brief description of the new process. Seven short subjects or excerpts from feature pictures were demonstrated under the control of Douglass Churchill of the New York Times, he having been invited by Major Levinson to take the control desk in order that some visiting fireman might certify the genuineness.

The programme was as follows: Henry Busse short subject, gusher sequence from "Flowing Gold," battle sequence from "Fighting 69th," symphony moderne from "Four Wives," earthquake sequence from "The Sisters," Beethoven's Egmont Overture from "Four Mothers" and a short subject, "Service with the Colors."

Inevitably the process will be compared with the recent demonstration of stereophonics at Pantages Theatre. While of course the audience at the studio this last month was of no size sufficient for a comparison with the great audience assembled at Pantages', nevertheless the volume of sound at the studio seemed to equal that in the theatre but lacking the terror, conscious or otherwise, that accompanied the theatre showing.

Vitasound Adds Drama

The gusher film from "Flowing Gold" was a revelation in sound, in well-directed sound. It was almost an inconceivable, unimaginable roar, yet the listener might sit unmoved. The earthquake sequence from "The Sisters" was something to remember—how could you help it—and the overture was enjoyable.

But the little subject, "Service with the Colors," a Technicolor picture made at the Presidio and photographed by Charles Boyle, A.S.C., is transformed from an ordinarily incidental skit to a drama of great power by the addition of the Vitasound.

It will be shown soon in those theatres equipped with the new devices. No one who has been touched by the hand of war will enjoy the experience of sitting under it. Yet no one who has been similarly searched can afford to miss it.

The incident takes place in a time of peace. Anyone who sits through it unmoved is indeed a person who will classify as hardened.

Washington Movie Club

The Washington 8mm. Movie Club held its twenty-ninth regular monthly meeting at the Washington Hotel on Wednesday, November 13. President William McConnell was reelected for the ensuing year.

The annual dinner, one of the club features, announced for December 11, is to be held at the Washington Golf and Country Club.

The other officers elected are Milton J. Pike secretary, and Maurice Heynal treasurer.

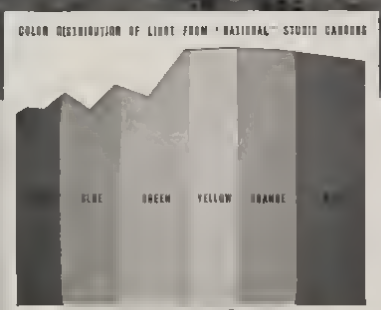
Mrs. Tetzlaff Passes

Mrs. Anna Tetzlaff, mother of Ted Tetzlaff, A.S.C., second vice-president of the A.S.C., died at her home in Los Angeles during the month. She was buried November 13 from Forest Lawn. Sympathy of his many friends is extended to Mr. Tetzlaff.

George Stewart's prize winning print of "The Wrong Hencoop," table top cited by many as example of Mr. Stewart's creative ability.

Comparable to Daylight

AT ITS BEST



● The light produced by "National" Studio Carbons duplicates the photographic effects of natural sunlight supplemented by the blue from the sky. It gives true daylight quality and realism to studio scenes, whether in color or monochrome.

Carbon arc lighting has exceptional penetration and photographic speed without excessive heat. It supplies all of the spectral colors, balanced in intensity to the sensitivity of modern photographic emulsions. It gives accurate and natural reproduction of form, color and detail.

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New York Pittsburgh Chicago St Louis San Francisco

Simplifying Makeup for Motion Pictures

By WILLIAM D. FERGUSON
Amateur Cinema Club of Buffalo

STILL photographers use retouching pencils They scrape their negatives with knives and put prints through trick processes But we who make movies find patching up impossible We either photograph it right the first time, or shoot it over This is where makeup steps in to aid the cineamateur. And with a little knowledge and common sense any one can apply makeup Let's discuss a few of the principles

First, the subject's face must be thoroughly cleaned with a good cleansing cream. Liquid makeup remover might be used instead, one being equally as effective as the other. All old makeup must be removed. A mild astringent will aid in closing the pores and should by all means be used

Grease Paint Ideal Foundation

Next, apply a foundation in a thin, smooth layer Hollywood has found the best foundation to be grease paint. This has a professional sound and usually frightens the average amateur Probably the reason many people have trouble with grease paint is that they apply entirely too much If used in excess, the results will be blotchy and altogether unsatisfactory

If used sparingly, and thoroughly and evenly distributed, freckles and spots disappear. The face takes on a smooth, clean appearance. Blemishes and irregularities cannot, usually, be covered with makeup, however Distribute evenly over the entire face, throat and neck If the subject's ears are to be visible, cover them

The smoothing process may be accomplished more easily if the following trick is utilized. After the grease paint has been applied in tiny daubs or specks over the face, wash your hands completely. Returning to your task with dampened fingers, you will find the smoothing greatly simplified. When the fingers become dry, wet them and continue

Spread the grease paint away from the nose, outward, with a circular motion Be sure it is worked into the hair line—not far into the hair, merely enough so that no distinguishing line is visible And use it sparingly Don't smear it over the edges of the lips or into the eye brows

Eye Makeup

Eye shadow is applied to the lids in a soft, upward motion, using the finger tips Work upward, gradually fading the color Make sure no line can be seen on the lids, and use very little of the color. Always try to be subtle, not obvious

Eyebrows and lashes are next Stray hairs along the brow edges may be plucked, but retain the natural outline of the brow Avoid a thin, penciled appearance The choice of black or brown pencil is dependent upon the subject's general complexion and coloration

Apply mascara to the lashes, but do not form beads. Beads produce an unpleasantly artificial appearance. Makeup must never appear artificial. Unless you have had some experience making up eyes, it would be advisable to allow the subject to perform this step.

Eyes should be lined carefully This is done as follows: An eyebrow pencil is sharpened to an extremely fine point Beginning at a spot about three-quarters of the distance from the outside corner of the eye to the inner corner, carefully apply a thin line immediately adjacent to the lash roots Follow these hair bases exactly.

A similar thin line is applied completely across the upper lashes, again following the root line Never apply this line with a black pencil It should not appear sharply defined, but blended away from the roots If application proves too difficult, it is better to omit this step. Lining is not an absolute essential, but if properly done adds greatly to the final result

Applying Rouge

Lips should next be colored Cream rouge is entirely suitable for the purpose. Liquid rouge will be found ideal However, application of the liquid type requires considerable skill. No matter which type is used, the lips should be perfectly dry before application. If the subject has extremely small lips, they may be made to appear larger by running the rouge just over the lip edge. Care should be taken to see that this running over is very slight and not overdone If the subject's mouth is too large, it may be made to appear smaller by keeping the rouge just inside the lip line

After the edges of the lips have been shaped, following the natural outline to avoid artificiality, the mouth should be opened. This enables color to be applied well inside the lips, avoiding a two-color effect when the mouth is opened Any excess rouge adhering to the teeth may be easily removed with tissue

Application of cheek rouge is next Cream or powder rouge may be used, being a matter of personal preference. If powder is used, it should not be rubbed on Use, instead, a light, patting motion, following the natural contour of the cheeks Blend the color well, fading out the edges. Avoid "wooden soldier" spots

Now check your subject's makeup Look to see if the eye lining is too sharp If so, soften it by carefully using a small, clean brush Be sure the lid shadow is not prominent, it should be but a mere suggestion of color. Is the color applied well around the inside curve of the lips? The foundation must be worked into the hair line And neck, throat and ears should be covered

Powder Heavily

Apply face powder heavily all over the face. Do not cover the lips. Don't worry about the eyebrows, not powdering them any more than can be helped, of course Powder the eyelids, inside and outside corners of the eyes, carefully, underneath the eyes, and carefully into the hair line Powder the neck and throat, and ears, if they are to be exposed. It is advisable to cover the hair with a towel before powdering is done

Now, using a camelhair brush made expressly for the purpose, lightly dust off all excess powder If your base has been correctly applied, you now begin to

(Continued on Page 570)

Handled 363,000 Prints in Two Years—a Record?

THE biggest single photographic job that was done in the New York World's Fair was turned out in the Ford Motor pavilion Seven crack men did the job in a unique modern press-photography setup

This setup was original in layout and in some of its equipment It enabled the Ford photographic staff to make pictures with the systematic speed and precision of an auto assembly line. And in fact some of the most unusual step-saving, time-conserving features of the department were inspired by the mass-production arrangements in the mighty Rouge plant of the Ford Motor Company

The department's production totaled 363,000 prints—120,000 in the first World's Fair season, 243,000 in the second That is a daily average of 700 prints during 1939, of 1400 prints every day during the Forty-Fair Of the totals, 80,000 were issued for publication in 1939, and 162,000 were sent out this year The rest were courtesy pictures and record shots—a story in themselves

Just as impressive as that volume were the department's quality and variety of production All the major metropolitan newspapers, the national wire-photo services such as the Associated Press, carried the department's news and feature pictures So did the top flight news picture magazines like Time, Life and Look.

In addition, the department produced highly specialized photographs by the dozens of types—fashion pictures, photographic illustrations of machinery, theatrical photos—and made them up to the standards of outstanding general-circulation magazines like House Beautiful, of trade journals like Textile Age, of art publications like The Dance, and of national feature syndicates like NEA

Looking back on this job, the photographers admit it was a fabulous assignment And those photographers had a thing or two in assignments before they started this one

The staff was headed by Kenneth T Young, formerly a Boston free-lance later a star of the photographic illus

(Continued on Page 569)

Here's the time-trimming, step-saving, compact layout, printing room of the Ford Motor pavilion's photographic department. A heavy pull curtain shuts off this space from the section of the printing room in which contact-printing was done without interfering with the processes pictured here. Notice the placing of the Eastman auto-focus enlargers and the tanks—prints were handed directly from the enlargers to the tanks They moved without interruption from developer to hypo wash to second wash, then through the chute, shown at the right in this photo, into the outer finishing room. The photographers seen here, left to right, are Frank Collins, Bert Lawson, F. H. Davies and Charles De Soria.

RESERVE POWER

CAMERAMEN depend on the extra ability of each Eastman negative film to meet inevitable emergencies, and by so doing to help maintain exacting shooting schedules. This reserve power always has distinguished Eastman raw films.

Eastman Kodak Company, Rochester, N.Y.

J. E. BRULATOUR, INC., *Distributors*

Fort Lee Chicago Hollywood

PLUS-X
for general studio use

SUPER-XX
when little light is available

BACKGROUND-X
for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

HAROLD WARNER OF ORANGE COUNTY 8mm. CLUB FILMS CITRUS PESTS

Photographs by Harold Warner in 16mm.

HAROLD WARNER of Santa Ana showed "Friends and Foes of Citrus Growers" to the members of the Los Angeles 8mm Club at its October meeting. It was shot in about 800 feet, in Kodachrome, but it will be recut to a little under 400 feet. The picture in 16mm. outlines some of the trials and tribulations of an orange grower, of which Mr. Warner is a representative. Also is he an unusual photographer, unusual in that he chooses as his subject one the average amateur without any fanfare leaves to the domain of the photographer who combines the qualifications of a scientist.

The picture has been taken over by the Bell & Howell Library. The film will be set to sound, and the comment is all prepared.

The picture starts with rows of an orange orchard going up hill, with palms on the skyline. There is a road in the foreground, with tractor turning under cover crop. There is spraying, fumigation and irrigation. A long shot of a tree shows effects of purple scale. A closeup shot of leaves also shows effects.

There is a magnified shot of adult purple scale, with purple scale eggs and purple scale crawlers. Successively it takes the camera through the first stage on branch, the second stage on leaf, the third stage (fuzzy) and the last stage before mature adult. Then comes the branch with black scale. Then with the black scale the action is carried through five stages. With the Scutellista larva we are taken through the same procedure.

We now get an insight on the inroads of the red scale. Other pests are the red mite, brown lacewing, and aphis.

The ladybird beetle tells a different story. Some species are propagated by the county and state insectaries for distribution in citrus areas. The green lacewing is another predator which does a lot of damage to the aphis.

"California's equable climate is a boon to the citrus grower, furnishing days on end brimming with sunshine and warmth to swell the golden fruits and fill them with health giving vitamins and to keep the trees vigorous and ready to produce fine fruits another year," declarea the accompanying comment. We quote a little further from the script, which may indicate the interesting nature of the subject on the literary side alone.

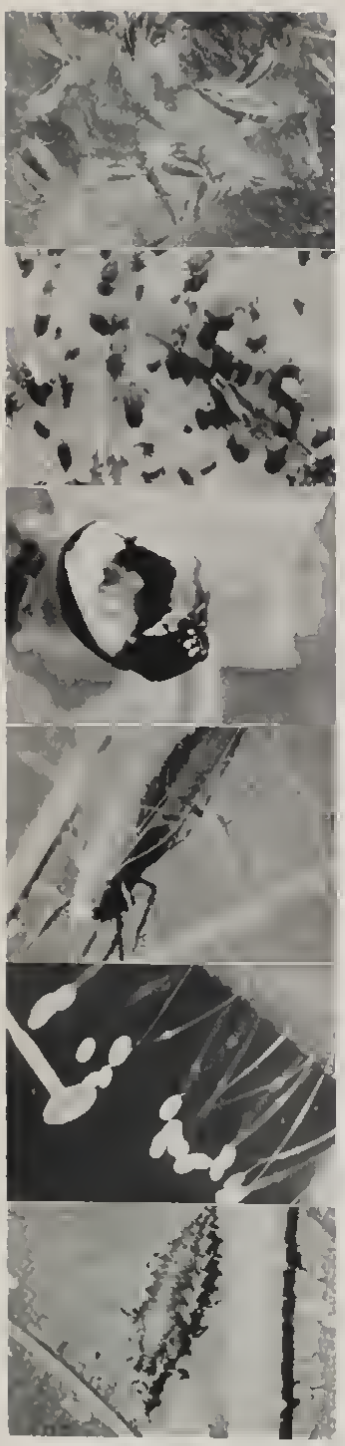
"During the winter warm rains fill underground reservoirs and man-made dams above ground, and provide bountiful cover crops, which are turned back into the soil to provide humus and nitrogen.

"However, this ideal climate is also favorable to the development and spread of numerous insect pests, which may prove very harmful to citrus trees if not checked. Their natural enemies, while destroying large numbers of the harmful insects, are not numerous enough to control them.

"So the citrus grower finds it necessary to make frequent inspections throughout the year and to aid the balance of nature with his program of spraying and fumigation."

The comment describes what is taking place on the screen, in plain language, and with no attempt to be profound. The production is a worthy one, and undoubtedly it will have wide approval in communities in which the subject discussed has vital interest for all the people.

Believing there was much of interest to photographers generally behind all these experiments of Mr. Warner the editor requested him to give our readers



Last stages and adult Purple Scale

Aphis

Adult Scutellista Parasite of Black Scale

Green Lacewing adult larva feed on Aphis

Eggs of Green Lacewing

Large Lacewing larva feed on Aphis

Mr. Warner and his camera

Harold Warner

a story on what he had been doing. Mr Warner has kindly obliged as follows.

By Harold Warner

THE original film, made in 8mm., which you saw at the meeting of the Orange County 8mm. Club about two years ago, was the result of my natural interest in the insects which attacked my citrus grove combined with experiments with a new gadget, a Goerz reflex focuser, which I had had adapted to my 8mm Bell & Howell camera.

I entered the film in a local club contest with no thought of the interest it might create. News of the film spread quickly and soon numerous invitations came to show it at various farm bureau meetings and other organizations concerned with agricultural development in this vicinity.

I had made the film more as a hobby rather than a film for entertainment. However, when I realized the interest it was causing and the size of the groups desiring to see it, I decided to make a 16mm. film on the subject and make it more complete, with more thought to the educational value of such a film.

It has been surprising, in showing the 8mm. film, the amount of interest displayed by growers and the seeming lack of knowledge and available films on this subject. There are numerous good references in book form which, however, do not have the appeal that an interestingly presented film has.

Larva of Ladybird Beetle emerging from eggs. (Circular object is a pinhead, to establish relative size.)

Large Larva of Ladybird Beetle with Aphis.

Young Black Scale.

Eggs of Ladybird Beetle

Young Black Scale.

Red Scale—Three-quarters grown, lower one in first molt, upper one just gone through second molt.

On the other hand, film in natural color presents the insect in animated form as in real life, free of the dryness that often accompanies a scientific treatise. Also, after consulting with Walter Evans, educational director at Bell & Howell's Hollywood branch, I began to see that the film might have some commercial value

As to organizing the story, we took into consideration the major insects which affect citrus trees, particularly in the coastal areas The narration was necessarily limited or extended, according to the action we were able to film of the various insects. Previous experience has shown that a great deal of interest or curiosity was displayed in the details that make up the life cycle of the individual insect After the introductory paragraphs, the life, habits, and peculiarities of each insect was discussed as it appeared on the screen

Use Goerz Focuser

As to statistics concerning the life history of the insects, we are indebted to the entomologists who have made a life work of the study of citrus insects Concerning details of the life of the insect such as the number of eggs laid, length of time required for development mortality rate, how local climatic conditions affect the insect and numerous other facts which require long hours of research and study, we referred to government bulletins and other reliable references

The equipment used in filming the subject was a 16mm Bell & Howell 70-DA with one, two and four inch Taylor Hobson Cooke lenses, and the Goerz reflex focuser. I used the two-inch lens with a long extension tube for most of the work It was necessary to mount the camera on a heavy tripod during all of the filming. The subject was mounted on a movable stage which was also placed on a firm support

As we settled on Kodachrome film, filters were unnecessary, as we found direct sunlight essential Filters of any kind would have been a handicap, as we were forced to use larger stops with the long extension tubes necessary for this work From one to three or more stops larger diaphragm openings were necessary where the lens was extended beyond its normal seat.

Method Different

The procedure followed in this type of work is entirely different from ordinary picture taking The subject is mounted on the movable stage, the camera and stage being set up in approximate focus The subject is then brought in with the movable stage

Then the final focusing is done with the helical mount on the lens. The focusing is done through a ten power eyepiece on ground glass, which is in a tube at right angles to the lens The image is reflected on the ground glass by a prism This prism is removed from the path of the image while the picture is being taken

The trials encountered in this type of photography are many As stated before, it is necessary to work in direct sunlight, which many of the insects dislike very much. Normally, when in the tree, unless they are insects which are in a fixed position as adult scale insects, they stay in the shaded portions of the tree during the sunshiny hours

Many of the insects, such as the scale crawlers, are so minute that a magnifier is required in locating them, and often these insects are lost in preparing them for filming. We worked in a sheltered place, but even then a sudden puff of wind often blew away the subject after painstaking mounting

Feed with Pin

It was impossible to hold or anchor the subjects in any way because that interfered with their natural movements, and some of the more minute insects would be crushed even when the greatest care was used. On one occasion we induced the lacewing larva to stay in one position, while focusing, by feeding it aphis from the point of a pin

Often the lowly house fly upset the subject after everything was in readiness for a "take." The procedure for a take usually ran about as follows

After collecting the subject matter (which sometimes required hours of searching) the desired point in the cycle of the insect's life was selected and mounted on the movable stage The camera was set up in approximate focus, the subject brought into close focus with the movable stage, and the final focusing was done with the lens mount with the diaphragm wide open.

All this, providing the insect obliged by staying in the field long enough to focus. After this, the lens was stopped down to a predetermined opening. We substituted a larger object of the same color and used a Weston Meter for calculating exposure. The prism pulled out, and the exposure made for the necessary ten to twenty seconds.

The best period for photographing these insects is during the summer and early fall. It is necessary to know more or less about the life cycle of the various insects because there is a fairly definite time for finding each species in the desired stages

A George H. Scheibe contact print from a 4 by 5 inch standard ortho plate, exposed some nine years ago. Taken at Lake Tee Jay, in the Mammoth Lakes Region (California).

"Nation Builders" Brought Up To Date by J. A. Sherlock

Reports from the Australian Amateur Film Society of Sydney disclose that James A. Sherlock's 16mm epic "Nation Builders," grand prize winner in the American Cinematographer's International Amateur Movie Contest of 1938, has been brought up to date.

"Nation Builders," it will be remembered, is a 1600-foot film depicting the history of Australia It has been brought up to date by adding to the closing sequences scenes showing Australia once more in uniform for World War II

Necessarily the recorded score and narration have been correspondingly revised, with the narrator referring in telling manner to Australia's war effort and quoting impressively from the Empire Broadcast of King George VI. Well done, Australia!

Re-edit Your Films When Novelty Wears

By HATTO TAPPENBECK

By this time the sentimentality has worn off from your first films and you regard them with more or less indifference or find them rather boring compared to your more recent ones. You have taken your movies, but you have not made pictures out of them! If that is the case it is time to re-edit your films.

Re-editing is synonymous with bringing the picture up to date and up to the present standard. This can be done by a number of different means or by any combination of them. Once in a while the large studios re-edit one of their older films and present it to the public in a modernized form.

It does not necessarily mean to retake the whole picture, although this is being done, too, with an entirely new cast, new sets, a new director, new locations, and perhaps shot from an entirely different dramatic viewpoint.

However, this does not apply to the 16 or 8mm owner who uses reversal film and has only one positive picture and a limited means at his disposal. This changes the whole situation. Do you remember when you took this or that of your old pictures, the reason for shooting it, how proud you and your family were with the result, and how splendid it looked on the screen?

Maybe you are one of those conservative persons who want to keep every foot of film they shoot, and who dislike even to change the continuity of the scenes, although it would improve the picture.

Times Change

Then remember the many thousand feet of film shot for each regular studio production—the average amount of negative film required for each varies from 100,000 to 200,000 feet—is cut down to 6000 or 7000 feet, and many perfect shots which cost enormous efforts and sums of money are sacrificed in the final editing to bring the film down to the required length in order to keep the public from getting tired by too long a performance.

Times have changed since the inception of your first films, your ideas have progressed, and your point of view is more advanced along with your technique. But your old films still have merit, even though you would not make them again in the same way.

What to do about them? Simply re-edit them. This is not difficult at all and a fascinating pastime as well. It calls at the same time for a lot of thought, imagination and hard work.

The first thing to do is to project the picture and review it a number of times. Then write all the scenes down on paper and remake the film then and there with remarks as to length of scene, the need for a closeup angleshot, title, etc. Use all scenes of your original picture if possible.

Ask yourself: "Why don't I like my picture anymore the way it is? How can I improve it? Are there any vital scenes missing? Is the tempo too slow, or should there be a little more footage added to this or that scene?"

Use Cloth-Lined Basket

All these and a lot more questions come up as the picture moves on. And they all can be remedied by re-editing. Do not be afraid of cutting the film, but keep all scenes in order in a cloth-lined basket to prevent scratches and dirt, and fasten the start of each scene properly to the edge of the basket, or put them in rolls in a trough or in pigeonholes on your cutting table with numbers readily to identify each scene. Both methods are used in the motion picture studio.

If you have since made your own equipment or bought the most expensive tools for editing and titling which were fashioned after the professional ones, you must keep in mind that the real editing of a picture is still done in your head. It is largely based on your experience in thinking out the scenes and situations and visualizing the finished product as you want it to appear on the screen.

Many of your films from years back have lost their appeal, because they still remain in the stage they were in when the processing laboratory returned them to you, uncut and untitled. Lack of the fundamentals of titling and editing is usually responsible for it. You have gradually perfected your more recent pictures, but your old films remain merely a record from which the thrill has worn off.

News stories have headlines. Why should your film be without them? One of the surest improvements is a good set of titles if we find that our early film has none at all. How to make good titles is perhaps not new to you—or it may open up an entirely different field, also for your latest pictures.

As a still picture needs to be framed or put in an album to bring out its beauty and qualities, so is your motion picture in want of a good introduction through titles and of a beautiful ending which makes the story linger on after the show is over.

Shoot Your Titles

Some cameramen prefer to make their own titles during the shooting of the picture, incorporating the names found on signs, signposts, advertising material about the place or product they are shooting, etc.

In that case we do not want to make any changes in the original. Double-exposed titles with backgrounds fitting the individual scenes will greatly enhance the value of the picture. It is not difficult to make them from stills. Rewinding the film for double exposing the title over the background is easily accomplished with a little practice in the darkroom.

You can shoot the titles on ortho chromatic film which enables you to work with a ruby safelight in the darkroom to facilitate the rewinding. If you do not have a still picture on hand you can make a paper negative from a suitable frame of your motion picture film by enlarging.

Lettering the paper negative on the back with black letters or putting the titles in white letters on the front of the print will give you a background title without going through the necessity of rewinding the film for a double exposure.

Titles can often be used to speed up the tempo of the picture. We insert a few words in long scenes at the point where conversation takes place. If the film is torn or a sprocket hole damaged so that it has to be cut out and spliced, you may often find that it is also just the proper place for an insert, a closeup or a brief explanation. The most widely

followed practice is to establish the scene in a long shot and to play the remainder of the action in closeups.

If we do not have any closeups we can take some added shots against a similar background as used in the original scene. Or if that is impossible a close view from a low set-up against the sky will fit well into almost any exterior scene. Closeups properly intercut with medium and long shots tend to speed up the continuity.

Editing Made Pleasure

To facilitate the re-editing we splice a short piece of leader in between the scenes where a new shot or title has to be inserted. On this we write with ink the scene number or other identification, and we replace it as soon as we get our picture or title for it.

This enables us to run the film again through the projector or rewind it through the film viewer without interruption. The new rewinds with film splicer and film viewer make editing a pleasure. Perfect and smooth splicing can be acquired with a little practice in a short time.

New scenes will often add to the picture. Shots from different angles than the one originally shown can be used for cuts also. Low angles, high set-ups, aerial shots made with a long focal length lens from a steep mountain or from a tall building, moving shots, or scenes in the rain or at night present many opportunities for inserting interesting action which will lend new attraction to your films.

Cut out all the unnecessary footage and replace it with a better scene or shoot a whole new sequence for the picture. Do not keep anything in your film which annoys you for one reason or another. That is the only way to bring your picture up to the highest standard. Lengthy scenes with little action should also be reduced to a minimum.

You may wonder what to do with the pieces you cut out, scenes which are good but unnecessary to that picture. I keep them on hand, splice them together in sequence as far as possible, and keep them on one reel for use in other pictures, where such shots are required. They constitute a ready library of film cuts from which to draw.

Sometimes a few of such scenes suggest a new picture and form a nucleus around which I build up another scenario. Shots from a travel picture can give a start to a variety of subjects such as "City Life," "National Parks," "Wildlife," "A Fish Story," "Modern Transportation," "Highways of Today," "Engineering Feats," etc. The possibilities are unlimited and depend largely on your own interests and imagination.

Titles Means to End

I like to remark here that many titles do not necessarily improve a picture, they should only be a means to an end. We should strive to rearrange and shoot the picture in such a manner as to make it perfectly understandable with as few titles as possible.

Occasionally a clever cartoon or drawing in the hands of one of the actors can be a good substitute, and finishing a few explanatory words on a typewriter allowing enough time to read it all by the time you are through typing is also very effective.

Your earlier pictures constitute oftentimes valuable records to you and your immediate family only—records of the new addition to the family, the dog, the various members, the visiting friends, special events, etc. The real thought behind it is to keep a living memory which can be revived at will.

This, on the other hand, can at the same time be made very attractive and up to date by inter-cutting recent shots of the same person or event with the previous ones and adding more scenes as time goes on.

Comparisons like that with the past arouse new interest and make your older films valuable beyond belief. And your friends will be as eager as you are to see your pictures time and again in anticipation of the changes and additional shots with which you are improving your pictures.

Film editing and re-editing is not merely an interesting creative hobby. It teaches at the same time the proper requirements for your future films. As your camera technique advances you will find it also a great help both during the shooting and afterward. It reduces your film waste to a minimum and points the way to eliminate much cutting in your next production.

ERPI'S DENSITOMETER CUTS HUMAN ELEMENT

PERFECTION of a scientific method of measuring the "density" or pattern of light and shade which comprises the image on a motion picture film has been accomplished by research engineers working in the Hollywood laboratories of Electrical Research Products Inc. The new tool for use by the motion picture industry resulting from this research is called an integrating-sphere densitometer.

According to Dr. J. G. Frayne and G. R. Crane, who were mainly responsible for the development of the new device, it functions to indicate the time of development of the film in much the same manner that the exposure meter indicates the time of exposure for the film in the camera. The new device, in addition, can be used for controlling the development of both positive and negative films.

Heretofore, density measurements have been taken with an instrument that relied for much of its accuracy on the eye and on the judgment of the individual operator. In this old method, light transmitted through a test sample of films was compared visually with that given off by a standard sample. Fatigue, eyestrain, and individual differences between operators often resulted in error.

The integrating-sphere densitometer traps that portion of a beam of light which succeeds in penetrating a test sample of motion picture film. The trap consists of a hollow ball or sphere, the inner surface of which is finished in white, and fitted with a photoelectric cell or "electric eye."

Light entering the globular chamber is reflected many times and finally falls on the photoelectric cell as a thoroughly mixed or "integrated" product. Its value or brightness is then translated into electrical current and registers, in terms of density, on a meter.

This information enables technicians to regulate with extreme accuracy the chemical processes involved in developing or "finishing" the film. By eliminating the human element the new device gains in speed, accuracy and consistency.

Orders have already been placed for the new device by several of the large studios, and it is expected it will rapidly become a standard instrument in the industry.

"Boy in Court" Prepared by National Juvenile Authority

The National Probation Association has sponsored the making of "Boy in Court," a film in 400 feet of 16mm and 1000 feet in 35mm. Both sizes are complete with sound and may be used on all standard sound projectors. From the typical experience of one of thousands of young offenders who stand before the courts of the nation each year the Probation Association has built an appealing story of the juvenile court and probation.

The film may be bought outright or rented. The price of the 35mm is $60 and for the 16mm, $25. Queries may be addressed to the National Probation Association, 1790 Broadway, New York.

Art Reeves Says His Move Was Popular with Customers

Where for ten or more years several miles have separated the two business addresses of his store and factory, Art Reeves' recent move putting them almost under one blanket has proved popular with his customers. Whether the latter wanted something at the factory or the store or something at the store and to find him at the factory the doubling up of the two within a couple of doors of each other has proved to the liking of his clientele. They can reach two birds with one shot, and have taken the occasion to say so. Reeves says his move was well worth while.

Scheibe Works and Plays, Too

George H Scheibe, photo by Mrs. Scheibe

PHOTOGRAPHERS everywhere and of every kind will be interested in a workshop that sets in behind a cottage on a suburban Los Angeles street. It is not a large workshop Its dimensions are only 9 by 18 feet, but it is packed on its four walls from floor to ceiling with items of interest to photographers. Those items in the main center around filters

That workshop is George H. Scheibe's For twenty-four years it has been his other home, his second home, his first one being the spacious cottage which rides in front of it In that twenty-four years he has witnessed many changes in the photographic map which he makes it his business to study from day to day and year to year He has seen film advance in speed—well, let's be conservative and say five hundred percent

And you know the newer brand of photographer may not realize that the faster the film the less time there is for the filter at a stated exposure to register on the film In other words, in the old days much more time was allowed light to pass through the filter than is possible today.

Filters may do queer things Three years ago Karl Freund wanted a cloud effect scene for "Good Earth" He wanted a scene in which a shadow passed over the landscape, just the same as you and I often have observed from an elevation in the countryside. George Scheibe accommodated him, providing a filter that with a cloudless sky nevertheless put on the screen a view of clouds

Hotspot Iris

Filters graduated in two and three colors are made to register clouds in greater contrast or for moonlight or night effect The exposure factor is applied to lower half only Mr Scheibe has one box of ten inches length containing eighteen graduated filters each 3 by 3 inches in diameter They make an imposing array—but they are not all

Sometimes in background projection work, where the projection machine is placed behind the screen and actors are in action in front of scenes that are photographed thousands of miles away, the Hotspot Iris, which may be made to fit any spot on the screen, wipes out that hotspot and leaves the entire surface an even lighting This is accomplished by using the iris at varying distances on the projector. The particular filter is of course for moving pictures only and is made in 6 by 6 inch and 8 by 8 inches only.

Fog filters are largely used in movie work, although there is no reason why they should not be employed in stills Just to indicate the varying densities that may be obtained by these the following figures will be of interest.

No ⅛, ¼, atmospheric haze or mist; No. ½, very light fog; No 1, light fog effect; No. 2, medium fog effect, No 3, heavy fog effect; No 4, dense London fog; No. 5, graduated—used for street scenes in movies No ⅛, ¼, ½ and 1 can be used at night

Diffusing screens (soft focus effect) also are popular among more advanced photographers Some of the stated advantages of these are avoidance of double image flare or halation, smoothing out of facial wrinkles and studio make-up to perfection By using this diffuser with a high-speed anastigmat lens one is enabled to produce a finely diffused image without sacrificing speed or the correction of the lens Worthwhile effects also are obtainable with these screens when making projection prints from sharp negatives.

Monotone Filter

The following numbers indicate the varying degrees that may be obtained with a diffuser No. 1/256, 1/128, extremely mild, No 1/64, 1/32, delicate diffusion, No. 1/16, ⅛, for distant views, No ¼, ½, for closeups, No 1, 2 3, extreme diffusion

Another filter Mr Scheibe has found of value since 1916 is the monotone filter, for visual use only It was the forerunner of the meter—and today is still employed in spite of the meter It is used to judge light values, highlight and shadow, and enables one to see color in terms of black and white and halftone

Someone has said that to the builder of the best mousetrap the multitude will wear a path. Mr Scheibe has had something of that experience, for from all over the world come paths to that door. He does not attempt to explain why or

how, but he lifts orders from a drawer that come from Australia and Bombay and Calcutta.

These are in line with West and East, although it is to be expected many orders will come from the studios They do, but the studios are not confined to any part of the world; they are all over

Mr. Scheibe keeps in touch with his work—he is a still photographer. He conducts his own experimentation And when his word is passed as to the ability of a certain filter to do a certain thing in certain circumstances he is talking of something of which he knows the answer—he has experimented on it himself More than that—he has had the fun that is a part of a still photographer's work

And that workshop of his By closing a door and posting a single shutter his darkroom is perfect

DISNEY'S "FANTASIA" IS REALLY REVOLUTIONARY

THE first public showing of Walt Disney's "Fantasia," in the Broadway Theatre, New York, will unveil an entirely new type of motion picture sound recording and reproduction, which projects a complete third-dimensional effect of sound and music It is expected that within a few years all leading theatres, in order to show this new type of screen entertainment, will have to be equipped with this type of sound equipment.

Christened "Fantasound" because, like the picture itself, it represents a revolutionary technique in sound reproduction, the new system of recording and reproducing sound-on-film employs entirely new principles both in the studio production and in theatre presentation Three years of work by Disney and RCA engineers went into its developments.

"Fantasound" causes sound actually to move with all action on the screen This realism in sound is accomplished by the use of a number of loudspeakers placed at different points behind the motion picture screen. If a bee buzzes into the scene, for instance, to circle around the screen and off again, loudspeakers are automatically cut on and off to follow its progress. This drone can also be heard traveling all around the theatre

Began As Idea

"Fantasound" plays an enormous part in "Fantasia" The music of the 103 piece Philadelphia Orchestra under the baton of Leopold Stokowski is the chief and sometimes the only actor. But to achieve the unusual orchestral effects required a staggering amount of work

"Fantasound" began as an idea in Walt Disney's mind several years ago He watched a bumble bee buzz off the screen in one of his own cartoons and the finality of the disappearance disturbed him He felt that it should be possible to have the bee around even if it weren't needed on the screen any longer. RCA sound engineers were called in to consult with Disney engineers, and the development work began

At about the same time Disney's studio was filming a super-short with Mickey Mouse in the title role The picture was to be a pictorial interpretation of Dukas' musical composition, "The Sorcerer's Apprentice" The musical score was to be conducted by Stokowski

But, as production progressed, it was thought the subject was too interesting to be dismissed with a ten-minute short, and so the decision was reached to expand it into a full-length concert feature

Deems Taylor was called in to aid in selecting the music to be featured The selections finally chosen, in addition to Dukas' work, were Bach's "Toccata and Fugue in D Minor," Tschaikowsky's "Nutcracker Suite," Stravinsky's "Rite of Spring," Beethoven's "Sixth Symphony," Ponchielli's ballet music, "The Dance of the Hours," Moussorgsky's "Night on Bald Mountain," and Schubert's "Ave Maria"

420,000 Feet Recorded

The studio dispatched a crew of technicians and studio musicians to Philadelphia's historic Academy of Music, where the business of recording the Philadelphia Orchestra was carried on with the assistance of RCA engineers. Over 420,000 feet of music were recorded, from which 18,000 were to be selected for the final picture.

For every group of loudspeakers used in the theatre there had to be a separate source of sound synchronized with the picture. So when Mickey Mouse appears on the right, a control mechanism switches on the loudspeaker directly behind him and veers the sound to another speaker when he moves

Stokowski directed as he would ordinarily and the orchestra played with its familiar fire and skill. But there all convention ended For the music had to be divided up in such a way that later it could be blended at will and reproduced through the required loudspeaker—wherever Disney wanted it

To do this, the orchestra was divided into five sections—strings, basses, woodwinds, brasses and percussions. Each section was covered by three microphones, and recorded on a separate track Also, there were three additional "straight" recordings, two on film, one on records, and a "beat" track giving the beat, entrance cues, etc., which the cartoonists used to synchronize the action to the music.

Each of these tracks could be blended in any way with any other track or combination of tracks, so that actually any single instrument, section or the whole orchestra could be heard coming from any one point on the screen

Increases Music's Importance

It worked out like this. During the recording the music approaches a clarinet solo. The Disney engineer sharing the podium with Stokowski signals the engineer in charge of the woodwind section to look out for the clarinet, and gives him the level at which it is to be recorded.

In the final blend, the clarinet's loudness is played up or played down depending upon what purpose it fulfills in the finished production. And it may be heard in the theatre from any desired loudspeaker.

"Fantasound" succeeds in taking music and sound out of its customary accessory or incidental role in the theatre, and elevates it to the position of an important tool in the hands of the dramatist.

The results can best be described as surprisingly delightful. The Disney experts who produced the picture had difficulty in believing their own ears when they first beheld their handiwork

They heard screen sounds come forth with flexibility for the first time. They followed the music with their ears and eyes all over the screen In addition, they heard it coming from all around them in certain of the more exciting or dramatic parts

"Fantasound" should prove an important step forward for the motion picture art At present limited to "Fantasia" because of the elaborate sound reproducing system required for the theatre, it is expected nevertheless to form the basis for further research and development in the realm of sound on film, from which eventually will come new sound equipment which the average theatre can afford to install

Du Pont Issues Fine Grain 100 Daylight Superior Pan

Superior Pan (Reversal) is a new high speed 16mm. film currently being introduced by the Du Pont Film Manufacturing Corporation Tentative speed ratings are 100 to daylight and 80 to mazda, according to the Weston system

Considering this high degree of sensitivity, the film is very fine grained It may be spliced with scenes made on slower materials without comparing unfavorably. Shadows are well filled with detail. Intermediate tones possess a nice gradation.

Complete removal of the nonhalation backing in processing gives added brilliancy to the projected image The list price of $6 for a 100-foot roll includes processing upon return of the film to Parlin, N J

Alternately Swelling, Deflating, in Initial Thrill of First Hundred Feet

By Forever B. Anonymous

THE Greenhorn had completed his first hundred feet of movie film, of 16mm, and had taken it as it came from the processor to his friend the Doctor to put on his machine and give it a candid criticism. In the picture were shots, random so to speak, of a railroad excursion. There were pictures taken from a moving train and one or two from the ground. Also there were views of a shadowed brook tumbling down a long hill.

Although that hill really was around fifteen miles in length, down to the point where the brook joined a river, there were not more than three or four shots. Up at the top of the hill was a view of a lake, the source of the brook by the way. Later on there were shots of a desert scene, of the real desert, of joshua trees without number, with mountains in the distance and with the desert fading away into nothingness.

At the end of the reel was a view of a freight train, seemingly endless, with its locomotive in front and then back toward the end two more locos puffing away to get the train up the hill. And just as the camera recorded the two engines the circles came in the stock and the film was shot. Just in time.

Well, the big moment had arrived. The film was very carefully entered in the projector and the lights were out.

What a thrill it was following on the screen the first picture on which a button had been pressed! And how tensely was awaited word, of criticism or praise or damning with faint praise—only something—from the Doctor. In really a few seconds it came.

Deep Shadow

"That exposure is good, but you should have rested that camera against the side of the window. Then when the train jolted you would not have had the sway of the train and your accompanying jolt. You would have had only the uneven movement of the train."

Suddenly the train swung around a curve, about a deep canyon into which the sun could not penetrate. "M-m-m," muttered the Doctor, but he said nothing. The train stopped and the camera was taken to the ground. At a distance of perhaps fifty feet the camera was panned—right to left, to make it worse—the distance of a whole car.

"Would you mind telling me," purred the Doctor, "what particular thing you had in mind when you panned that shot?"

"Don't ask me," was the completely humble response. "I am asking myself the same question."

"It must have been to get the wheels," said the Doctor. And thereafter he appeared to get a sort of quiet joy in referring to the "wheels shot."

Then on the screen was shown a picture of a brook in Bouquet Canyon. The Greenhorn secretly was inclined to admire it. He was awaiting the Doctor's say-so or something. Again it came.

"You know really that is not bad—or was not bad until you started that climb up through the trees and out to the sky. Why the devil did you pull that pan? You ruined what otherwise was a good shot."

"I—I thought it would be a swell idea to take that picture of the brook and show what was over it; swinging toward the left up through all the trees with the wind blowing and the sun shining through them until I reached the open sky."

Watch Exposure

There was a picture of the desert away underexposed. What actually happened was that the camera probably was laid aside, only to be picked up under conditions similar to those existing when last used. The exposure had been changed by casual interference while the camera was laying around the back seat of the car. Certainly no meter had been used on the shot nor had the exposure been examined. There were other pictures of the desert, normally exposed.

"Why the desert shots?" asked the Doctor. "Did you think you were taking stills? Did you see anything moving? You must understand that thing you are carrying around is a moving picture camera and not a still camera."

The Greenhorn was silent. He was busy thinking. The projector still was running. The train shot came on, with its engines puffing black smoke as they hauled the big train up the hill.

"There!" exclaimed the Doctor with a semblance of enthusiasm. "There's your best shot of the lot. It's not only a moving picture, but you have hit your exposure on the nose!"

The Greenhorn awaited the inquest, the dissection from the one-man technical committee. But the Doctor decided he would run the picture again before he further discussed it.

"I'll tell you what I suggest be done," remarked the Doctor at the conclusion of the run of the hundred feet. "I'll go through this and throw out the stuff you can't use and put together what you will want to keep for use in other pictures as you may need them. What do you say?"

"You are the Doctor," was the Greenhorn's response.

The Doctor sat himself down to his editing board. Mercilessly he snipped here and there. He was talking as he worked.

Pan Shot Is Out

"This piece here is underexposed," he said. "Where a picture as a whole has an average level exposure, and certainly all pictures should, an under or over exposed shot stands out to the picture's detriment." And several feet came out.

"Here's your wheels shot," continued the Doctor. "Your exposure on that is good and I am going to leave it in, although for the life of me I don't know why. That pan shot on the brook is out—from the point where you started

Harry Parker Starts on Tour of South America

HARRY PARKER, member of the Los Angeles Cinema Club, and many other Los Angeles organizations, left Los Angeles Nov. 20 for Chicago, where he will remain briefly transacting business. He then will proceed to New Orleans, where he will embark for South America. It is his intention to remain in the Southern countries for perhaps six or eight months before returning home.

Mr. Parker has been a world traveler for many years. Always heretofore he has been accompanied by Mrs. Harriet Parker, whose sudden passing this last summer shocked her many club and other friends. Mr. and Mrs. Parker constituted an ideal motion picture team, Mr. Parker doing the photographing and Mrs. Parker the editing and also attending to the projection while Mr. Parker described the events on the screen.

And so the inquest proceeded and the dissection, too.

When the job was finished the Doc looked up "I have thrown out fifty feet or more I am going to cut that together and we'll run it just to show you After we have seen that we'll see the part that's good"

The discarded film was shown The Doctor smiled as the film was unwound "When it is all grouped together it does not look so bad as when it is sandwiched in with the good," he said "We'll now look at what you are going to keep"

The Doctor was silent a moment when the selected film had been shown "I can't understand this," he said as he talked directly to the two other persons in the room. "These pictures we have just looked at are better than the ones I had to show when I made my first moving picture film. Now I had been taking still pictures just the same as he had when I made my first movie

"How the devil did it happen he was ahead of me the way he was?"

No one answered as the Doctor sat in deep thought for a half a minute The Doctor banged his fist on the table

Meter Makes Difference

"I've got it," he said triumphantly "The damned rascal used a meter and when I began meters were not used I feel better In fact, I will go so far as to say that any one who can use a meter to good advantage on a still camera can do the same thing on a movie"

Plainly the Doctor felt better. And as plainly the Greenhorn had lost some of the inward cockiness he had felt but had tried not to show For the Greenhorn had been unable to understand how a man could tackle what to him seemed like a new medium, a strange field, going from a still camera to a movie, and getting almost the same results with a movie as he had with a still

The initial thrill of looking at your own film, where some of it got by and some of it certainly did not, was almost equaled by the reaction of looking at film that had been revised, where the weak sisters had been dropped by the roadside or in the wastebasket more properly speaking

One is reminded of the force that rides in the remark of the professional photographer who said the chief difference between the amateur and the pro is that the amateur insists in showing all his work and the pro only the best, leaving to himself and God the sight of what appeals to his own judgment as not so good.

"How much did you use that new tripod?" asked the Doctor. "You know you have read a great deal about always using it" And the Doctor looked quizzically at the Greenhorn

"Well" was the response, "I cheated several times I couldn't use it on the train, meaning that regardless of what others do I could not. Perhaps half the times I shot at the brook I did That principally was where I discovered I had difficulty in getting it to line up quickly I learned very soon it was not all so easily done in making that camera stand up right and look straight ahead or down as required

Eye Glasses Out

'On the desert I tried it with the tripod nearly all the three or four times I used it but on the freight train I saw I would not have time to get a proper set-up I very promptly acquired the information that using a tripod is no simple matter. Time is required, but of course it is well worth it"

'What did you do about eye glasses when you were panning?" said the Doctor

The Greenhorn chuckled "About the last thing I learned during the photographing of that first hundred feet is that the thing to do is to take 'em off,' was the response "I had thought of doing that, but believed the finder was too small

"I did not believe I could follow with the naked eye what was going on, that the aperture was not large enough. But I was driven to it. I guess by circumstances I determined to find out, anyway I threw my hat on the ground and dropped the glasses into it I pressed the camera close up to my eye. I could see perfectly!

"The camera was steadied much better. It occurred to me right then why the old time cameramen so commonly formerly wore caps and turned them backside forward when they were working It gave them a chance to get their eye on the ball"

"Did you try panning with your tripod?"

"No, I did not," was the decided response "That's another thing I have got to learn. I tried it just as a sort of rehearsal and found I jerked it worse than if it were free. It will be some time before I try any panning or tilting with a tripod when the film is moving. Did I answer your question?"

"You did" And the Doctor smiled "And you may have some difficulty in locating a tripod in the amateur field that will pan and tilt to your satisfaction, one, for instance, with a ratchet arrangement the professionals use"

"That must be something like Fred Hoefner's True Ball Tripod Head, which goes on the big tripods" was the quick answer. "I got my hands on it one day for a minute. It's as smooth as velvet."

NEW BOOKS

The American Annual of Photography 1941. American Photographic Publishing Company, 353 Newbury street, Boston Chapman & Hall Ltd, London, 1940 Volume 55 Price Paper, $1.50, cloth, $2.25 Edited by Frank R. Fraprie, F.R.P.S., and Franklin I. Jordan, F.R.P.S. 276 pp. Plus 48 pp. advertisements Over 100 illustrations Pages 7¼ by 9½ inches

Fifty-five years is a long time, but it is an unusually long time when it is related to things photographic Certainly, when any firm stays with any subject that length of time we may be sure men associated with it know what's what The articles printed and the illustrations chosen for printing are pretty sure to be out of the ordinary And so they are.

The first article in the book is by Julian Smith, "My Aims and Methods." Mr Smith tells how he always had a yen to take pictures—of humans; how as he began to get busy with his surgical work he found his photography being crowded out of his reckoning, how then he determined to get an even break for his camera. And he did. Some of his models are shown, one of them particularly striking, under the titles of 'The Squire" and "Brother Ambrose" It is altogether a most interesting tale

Calvin Rutstrum writes of "Using Polarized Light." Paul L Anderson's subject is "Modern Trends in Pictorial Photography." He goes back nearly a hundred years and tells us of how photography was adopted in 1843 by a painter, David Octavius Hill, who remained with it five years. Hill then was induced, or cajoled, or commanded by his wife, tired of the part of darkroom widow, to resume painting He is classed as a fifth-rater in painting As a photographer he is considered a master.

Lynwood M Chace writes of "Diversions of a Nature Photographer," Stanley N. Tess of "Press Photography," Robert R Miller of "Making the Most of Architecture," Roland F. Beers of "Expose for the Shadows or For the Light Areas," H W. Honess Lee of "Lines in Landscape," Adolf Fassbender of "The Paper Negative," R Fawn Mitchell of "Race-Track Photofinish Photography," Charles W. Seager of "The Photographic Darkroom" (and this is a humdinger), F. L English of "Biomoil Facts and Fancies," Roy L Gallagher of "Fluorescent Light in Photography," Hy Schwartz of "Photoflash Photography," Joseph S. Friedman of "Color Photography," Allen Stimson of "An Eclectic Approach to Pictorial Photography," Eugene V. Connett of "A Perfect Print" and Frank R Fraprie of "Our Illustrations"

Seventeen pages of small type are devoted to "Who's Who in Pictorial Photography 1939-40," with the exhibition record for the past three years The book deserves a niche in any photographer's library

Hollywood Visits Camden

William Bullock, in charge of general administration at RCA Photophone's Hollywood office, and Barton Kreuzer, in charge of Photophone sales and recording operations on the West Coast, are in Camden for meetings with Edward C. Cahill, RCA Photophone Manager, and other executives at Company headquarters Plans for 1941 operations on the West Coast are being formulated

DA-LITE'S $1050 PRIZE CONTEST ENDS DEC. 31

THE recent announcement of Da-Lite's new triple duty low-priced screen and the contest for naming it are good news for the readers of this magazine. Not only does the screen offer many new attractive features at a remarkably low price, but the 139 prizes, in cash and merchandise, totaling $1050, are distinctly worth shooting at

Everyone who has seen this new screen is enthusiastic. It can be used in three different ways (1) It can be used as a tripod screen, (2) a map type hanging screen, (3) a table screen

For tripod use it has its own separate tripod There is a bracket attached to the case for hanging on the wall. This bracket also fits Da-Lite's special two-ply spring support furnished with the screen for setting up on a table

The surface is Da-Lite's famous glass beaded surface, which provides maximum illumination to wider angles than ordinary beaded screens and stays white an unusually long time.

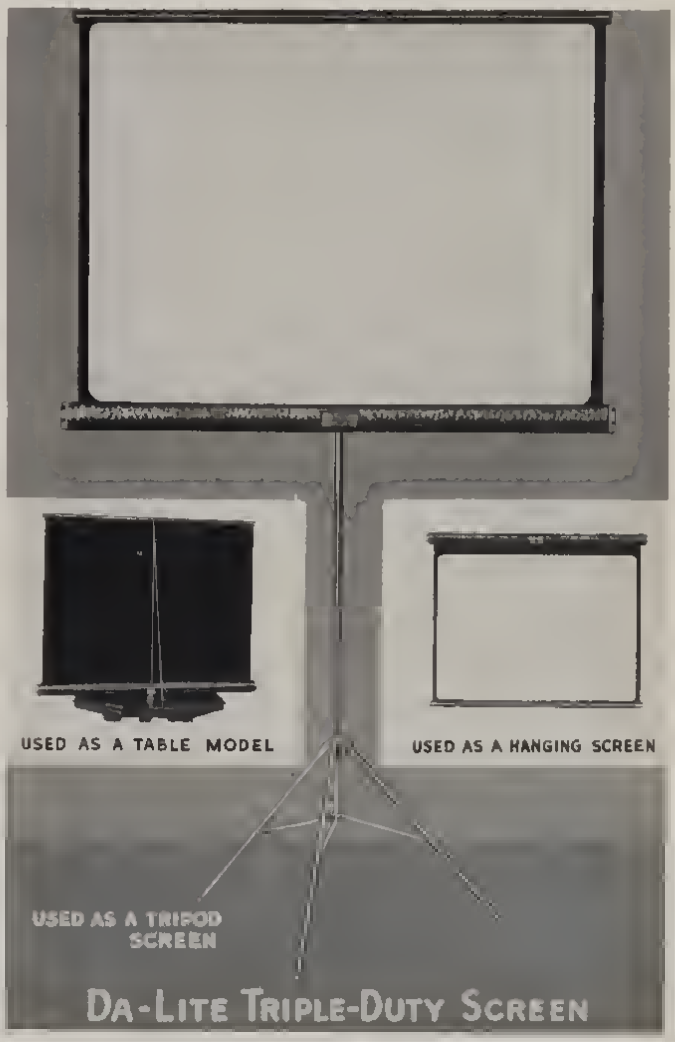
The beaded surface (30 inch by 40 inch size) is spring-roller-mounted in handsome black crystal-finished metal case. The screen complete with case, folding tripod, and two-ply spring support costs only $7 50. It is slightly higher on the Pacific Coast This is the first time a screen of this quality and type has been available at so low a price

The Da-Lite Screen Company feels that this screen fills a real need in the low price field and wants its many friends to have a part in selecting the best name for it. The prizes offered will make everyone want to try The first prize is $200 in cash, and there are three cash second prizes of $40 each, Ten Da-Lite Projector stands retailing at $18 each will be given to the third prize winners For fourth prizes, twenty-five Da Lite Unipods retailing at $6 each will be awarded, and there will be 100 fifth prizes consisting of Da-Lite Junior Screens, 22 inches by 30 inches retailing at $4 each On the Pacific Coast the retail price of each of these products is slightly higher

Each contestant will submit the name he thinks most appropriate and his reasons in twenty-five words or less why he thinks this name is best

Contestants may submit as many suggestions as they desire to on blanks supplied by dealers

An independent, experienced contest organization will have complete charge of the contest, which is open to everyone except employees of the Da Lite Screen Company and its advertising agency Entries should be sent to Da-Lite Screen Contest Editor 215 North Michigan Avenue, Chicago The contest closes December 31, 1940



American-made Goerz Lenses Available In Several Sizes

As a result of the practical stoppage of the import of foreign-made photographic lenses due to the war, the demand for American-made lenses has increased sharply As a result in some types and lines a definite shortage has been felt This is especially true of high-quality objectives in the more popular focal lengths and speeds

The recent announcement by the G. P. Goerz American Optical Company that a fair-sized stock of the well-known f.4.5 Goerz Dogmar lenses in the 5¼-inch focal length is available will therefore be of especial interest These lenses are available either in barrel mounts or fitted to Ilex Acme and other American-made inter-lens shutters. The 5¼-inch focus is excellent for 2¼ by 3¼ and 3¼ by 4¼ still cameras.

The Goerz organization further reports a considerable number of other Dogmars, Dagors and other American-made Goerz types in stock, though admitting that in spite of every effort to keep their stock replenished, not all listed focal lengths may be immediately available.

Documentary and the Amateur's Conception

By BILL SEINEKE, Jr.

RECOGNITION of documentary by the theatergoing public has been a crystallization as sudden as Johnny's falling in love with the girl next door who quite as miraculously graduated overnight from pigtails and freckles into something feminine and wonderful

Like the girl next door, documentary pictures have been with us for a good twenty years. Average movie fan has come home from the theater more than once and remarked, "Saw an odd picture tonight. Sort of makes you think, seeing that kind of picture. Oh, it was about fishing fleets. D'you know, though, when I open a can of tuna from now on I'm going to get an extra thrill."

Average movie fan has called such pictures movie fill-ins, travelogs, trips through various kinds of industrial plants and most anything to which he could lay his tongue except, until recently, documentaries.

Dazzled Listeners

Even now he hesitates to employ the word to describe a type of motion picture, though the temptation to dazzle listeners with the casual use of an important sounding term is not easy to resist

Apart from its proper application by cinematographers to the kind of film it is, documentary has crept into the consciousness of laymen and many amateurs chiefly through mediums only partially informed. The result has been a misunderstanding as dangerous as complete misinformation.

Who's responsible? A few self styled movie critics, for one group. The other group is the reading and listening public, whose apathy to any evolution is deplorable until that which has evolved assumes skyscraper proportions. Yes, the girl next door is back from college and gosh! her freckles are gone and her hair is all done up!

In the first place, the pictures produced for entertainment purposes *with historical backgrounds* have been extolled as documentaries and publicized as the current popular trend in cinema. Whether or not they deserve the classification is perhaps a matter of opinion.

Documentary on History

Perhaps it is drawing too fine a line to say that these have not been true documentaries, but did possess documentary characteristics. In order to arrive at an exact understanding of the word, however, it may as well be accepted at once that the approach to the creation of an entertainment film just about sinks its chances to rate as a documentary

This does not absolutely preclude entertainment features from the other classification, but when one does receive acclaim as a documentary you may call it luck or the demonstration of a remarkable talent on the part of the writer or the director or the editor.

Well, we ask impatiently, why can't an ordinary good historical drama get into the documentary class? It's history, isn't it?

History it is. And a number of other things. Drama, for instance. Now drama, in order to be good, has to move swiftly and its inevitable corollary is distortion. It must appeal to our emotions because we are seeking diversion or distraction. We are feasting our senses upon oomph men and women, more often than not we attend movies to see *them*

Theme Is Vital

As for the picture itself—it's merely something to enable us to live their portrayals vicariously. All of which is not to take a poke at the star system. We simply strive to expose an attitude of mind that causes us to expect certain things of pictures. And it follows naturally that producers have tapped our attitudes for exactly what they're worth in theater admissions.

People aren't important to documentaries except as they relate to the underlying theme. Theme is vital. It is the drumbeat, the rhythm, the coordinated skeleton of documentary.

Yes, the cinema has always spelled entertainment. There was a time when anything but entertainment at the movies bored us. That time is irrevocably past. A new attitude is shaping in Mr. and Mrs. Average Movie Fan, because they are asking more questions than ever before. Questions that get at the root of things.

Definitely New Attitude

They want to know what makes machines tick and wheels go 'round. They don't look scared any more when someone mentions relativity, and atomic power and U-235 are mysteries they feel they're entitled to understand because someday, they declare, smashed atoms may run automobiles and that would obviate the use of gasoline and we wouldn't have to worry about exhausting natural resources and what a wonderful world we may live in! Definitely a new layman attitude.

The attitude is father to the appetite and the appetite must be satisfied. Therefore motion pictures are performing more or less new functions on a grander scale than in their embryonic past.

They are educating our children as well as ourselves; they are reporting factual, contemporary history, they are propagandizing; they are analyzing and parading before our eyes and minds the pulse beats of men, machines and modern miracles. They are documentary.

All this hasn't just happened like that. Any number of factors are responsible. radio, better educational facilities, better highways, cheaper automobiles.

More responsibility and greater credit are traceable, however, to the doorsteps of the pioneers in documentary.

Men Who Rank

Mary Field, Robert Flaherty, John and Marion Grierson, Joris Ivens, Stuart Legg, and Basil Wright are but a few of the individuals who will forever rank among the great documentalists of the era in which they have lived.

Paul Rotha, himself a producer of documentary, has written a book entitled "Documentary Film." This is no book review, but amateur cinematographers are strongly advised to read the work if their aims embody the making of purposeful pictures that endeavor to establish some comprehension of the factors of civilization today.

All very well, you say, for the professional brotherhood. Quite all right for students able to enlist the aid of practitioners of the abstract sciences,

but what of the amateur cinematographer? Where does he fit into the picture?

You are a cinematographer, an amateur. You belong in a class created by your desires and prejudices, circumscribed only by your measured ability and initiative. You travel blithely along a smooth highway, one of progress, you're sure.

Three Roads

Suddenly you arrive at a point where the road branches and becomes three, and over each new roadway hangs a sign.

One sign invites those who would enter a land of fun and frivolity, of laughter and of tears, of drama. That road veers to the left.

The sign over the middle lane, which proceeds straight ahead, reads simply: "To Mediocrity. Speed Limit—10 m.p.h. Careful of Camera-conscious Cows."

You note, before your eyes pass to the third sign, that the middle road is dust covered, weed grown, little used.

Sign number three possesses more interest. In large letters at the top it reads:

ADVENTURERS WELCOME

Beneath that:

"Enter here who would tread new paths. This is the land of experiment and of documentary. Bumps and detours ahead. Bridges out. No speed limit."

The third road takes off to the right.

And so, somehow, do you. Why? Well, you know. You can't resist the challenge of that wordage. Yes, you've struggled a little with the blandishments of the left road. You've known folks who have traveled it. They did very well. Had enormous fun; made fine pictures. Entertainment pictures . . . with plot, with drama. Made their marks with them.

Into the Unknown

But something urges you into the unknown. Rare curiosity, the pioneering, go-west instinct—both compelling impulses. You turn right.

Along the way, nailed to rickety fenceposts, you spot a series of small red signs. "Ah!" you exclaim. "A Burma Shave ditty." Then you read aloud, in cadence:

"Amateurs wise
Analyze
Dramatize
. . Tell no lies
. . Documentary tells the whys
. . You and yours and the other guys."

Roughly, documentary does that, and no cracks about the verse. More specifically, one authority states: "Documentary relies exclusively on the belief that there is nothing so interesting to ourselves as ourselves."

Unerring truth! We love us instinctively. And how we dramatize ourselves! We're Freudy-cats, Winchell-sensitive, Jones-keeperupwiths. As we grow older we tend more and more to ascribe our odd human behavior to patterned isms.

Documentary is difficult to produce in exact proportion to our will to break away from someone else's conclusions about us, and is easy to produce in proportion to the keenness of our analytical perceptions.

The naive simplicity of a childlike approach is excellent. Ever have a child pepper questions at you of the whys of things? Has a credulous voice ever asked: "Do I eat to live, father, or do I live to eat?"

At the conclusion of an investigation into the wherefores of his parent's shaving, a local attorney's small son characteristically asked: "Daddy, what is 'why?'"

Documentary on Hands

If you are making, or have made a film that tells not only *what*, but the *why* of what, you are quite likely to have a documentary on your hands, and so, congratulations. Children have ways of jumping undeviatingly at fundamental truths, hence our recommendation.

In his book already mentioned, Paul Rotha divides documentary into four classes. Robert Flaherty's "Nanook" and "Man of Aran" are examples of the first, or Naturalist Tradition. Walther Ruttmann's "Berlin" and "World Melody" exemplify the Realist Tradition. The March of Time series aptly illustrate the Newsreel Tradition. John Grierson's "Drifters" is a case in point for the Propagandist Tradition.

The amateur's timid assault upon an emulation (in principle, of course) of any of these naturally predicates a thousand questions concerning the differences in treatment, selection of subject matter. The writer here confesses his sole purpose is to inveigle you into a serious consideration of documentary for your next project.

He particularly wishes to impress amateurs with one very vital power they alone can claim—namely, complete freedom of operation.

No hazards of box office, theater owners' objections, or movie fans' average IQ's cloud his horizon. Unfettered, he can make the kind of film he likes in the manner he likes. He is master technician in his own laboratory, the potential true documentalist.

Torch Flung

In a sense, a torch has been flung to amateur cinematographers, collectively and individually. Can they respond? Can they mark the complex andante vivace of society? Rhetorically, we reply with the question. Can they *fail* to respond?

Objectively, can amateurs strip the contemporary scene of its call-it-by-another-name dressings, photograph its true ideology and present them in a series of sequences that command interest and provoke analytical and reflective thought?

In the September American Cinematographer the writer suggested that interesting short subjects could be filmed around anything that can be named. A list of topics was given. With the exception of some abstractions which included the emotions, others of the subjects (wood, concrete, leather, glass, iron and steel) provide ample material upon which to build documentary films.

Let a loaf of bread be your subject. What of bread? *Why* of it? Is there a story behind it? Are there economic and social forces mixed up in it? It started in a wheatfield. Seed was sown, grew. Wheat was reaped, stored, milled, sacked as flour, distributed, redistributed, retailed to the baker. He mixed it with other ingredients, shoved it into an oven.

Fascinating, Impelling

Baked it was machine-sliced, machine-cinating, impelling documentaries. Your town is an agricultural center, an industrial center, a transportation crossroads, or a resort. It has something . . something that dictates your occupation, your way of life, your recreations, your very inner philosophy.

Tomorrow, next month, next year and a decade hence, men will take the pulse of our times and base their conclusions concerning the contributions of our age to progress upon the nature and quality of what we produce.

No motion picture exists which can recall the gay nineties. Insofar as documentary is concerned, those westward trekking, lusty times are quite dead. Only reproductions of them are possible.

Today need never be lost, can never die. Amateurs are legion. Their viewpoints are diverse. Present-day society is complex enough to demand the focused attention of every picture maker upon it in order that it may be preserved intact for future builders of a more perfect society. The challenge is there.

Documentary is the answer.

Cinema Club of San Francisco

The meeting of the Cinema Club of San Francisco was held November 19 at the Merchandise Mart.

Our own club member, Russel Hanlon showed his vacation pictures entitled "Northern Playground." This was in Kodachrome and an excellent picture.

Richard Wagner, chairman of the photographic committee of the San Francisco junior Chamber of Commerce, showed us three pictures.

"Mood Indigo," a story of a Sierra trip in Kodachrome and sound; "Harbor Day," a Kodachrome record of that yearly holiday, and "How to Make a Salon Print," a comedy on black and white film.

In addition to the program of entertainment as outlined, our business meeting included a discussion on the rules and regulations governing the mammoth contest for the annual trophy. This trophy, as most of you know, has been displayed in the windows of some of our members' stores and has received wide publicity.

Reprinted from Journal of the Society of Motion Picture Engineers

Effect of Aeration on Photographic Properties of Developers

By J. I. Crabtree and C. H. Schwingel

Communication No. 672 from the Kodak Research Laboratories

Part III

Effect of Sodium Sulfite Concentration on the Relative Oxidation Rates of Elon and Hydroquinone

In order to determine the change in rate of oxidation of elon and hydroquinone in combination with varying concentrations of sodium sulfite, various developers were compounded according to the following formula

Developing agent	5.0 grams
Sodium sulfite (desiccated)	Varying concentrations
Sodium carbonate (desiccated)	25.0 grams
Potassium bromide	1.5 grams

The end point of the aeration test was taken as the time required to render the solution incapable of developing an image density for a given exposure on positive film, when developing for 15 minutes at 65°F. From Figure 7 it is seen that elon was protected by sodium sulfite to a much greater degree than hydroquinone. The results with mixtures of elon and hydroquinone seem to indicate that the rate of oxidation of elon is somewhat accelerated by the oxidation products of hydroquinone, especially at low sulfite concentrations.

Effect of Temperature on Rate of Developer Oxidation

Tests with Formula D-16 indicated that a change in temperature from 65° to 95 F had only a slight effect on the rate of oxidation.

Removal of Developer Sludge by Aeration

Developing solutions, especially those for use with positive types of film, are usually discarded when they become colored and tend to stain the gelatin.[21] It was observed that when a badly discolored D-16 developer was agitated with air it became lighter in color and the opalescence in the solution disappeared. On closer observation, it was seen that the froth which formed on the surface of the solution was quite dark in color and could be skimmed off, thereby leaving the solution relatively clear. Also, the clearing effect was most complete after about 15 minutes of agitation when the developer was pale straw colored but, if aeration was continued further, the hue darkened to a very dark brown. Possibly practical use could be made of this observation as a means of clarifying large quantities of developer.

Agitation with Nitrogen

When nitrogen was used for agitating various developers, no change was observed in their photographic properties even after 10 hours of continuous aeration.

Effect of Carbon Dioxide

Since air contains approximately 0.045 per cent (by weight) of carbon dioxide, which gas reacts with alkalies to form bicarbonates, thereby lowering their degree of alkalinity, it might be expected that carbonation of the alkalies would reduce their photographic activity apart from the oxidation phenomena.

Accordingly, aqueous solutions containing 20 grams per liter of sodium carbonate and 40 grams per liter of Kodalk respectively were bubbled with carbon dioxide for 16 hours in which time an appreciable effect would be obtained if air were used. The solution was then used for compounding the D-16 and DK-40 developers. No essential difference in the properties between these developers and solutions prepared with the treated alkalies was detected, showing that the degree of carbonation produced by the aeration was very slight.

Calculations would indicate that only 0.0015 mol of carbon dioxide would pass per hour when bubbling air at the rate of 5 cubic feet per hour. To eliminate the effect of carbon dioxide the air could, of course, be passed through a soda lime or sodium hydroxide absorber.

(Continued on Page 571)

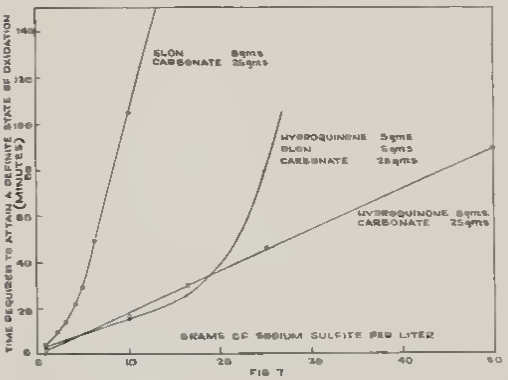


FIG 7

Figure 7. Effect of sulfite concentration on the rate of oxidation of developers containing (a) elon, (b) hydroquinone, and (c) mixtures of elon and hydroquinone

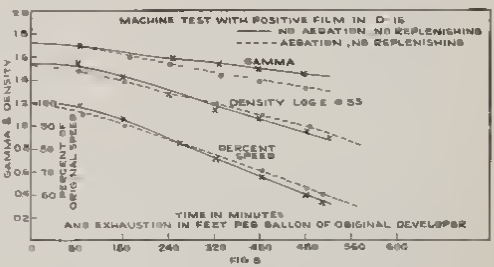
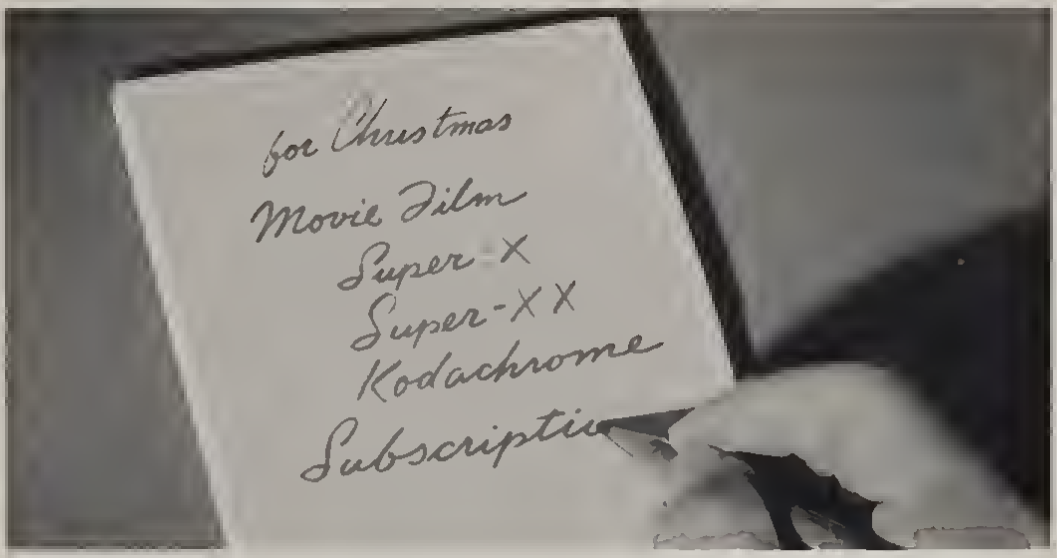


FIG 8

Figure 8. Effect of exhaustion of D-16 developer, with and without aeration, when in use in a motion picture processing machine.



Tops a Movie Maker's List...

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8 MM. CINE-KODAK FILMS

SUPER-X is the 8 mm speed film 25 ft roll equal in 100 ft 16 mm roll in projection time) $2.25 25-ft magazine $2.50

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EASTMAN KODAK COMPANY, ROCHESTER, N. Y.

Orchids for Toland

(Continued from Page 534)

tion of the killer. This she sells to the murderer, later killing her. As she is escaping from the scene of the crime a policeman picks her up.

That's the bald tale. In the telling are many tense moments. The chief characters are taken by Bette Davis, Herbert Marshall, the injured husband, and James Stephenson, the lawyer representing the two. Splendid work is done by the three, one and all. Stephenson's portrayal really stands out, beyond question. Sen Yung, in the guise of a lawyer's clerk, also did noteworthy work.

The company went to great pains and expense in making the production. Tony Gaudio, A.S.C., directed the photography and he had his problems. Much of the action takes place at night, and consequently much of the lighting is low. One of the most effective shots is where through a dimly lighted lane we see a glimpse of a ballroom 150 yards away. It is all most effective.

●

Bitter Sweet

In its latest MacDonald-Eddy production, "Bitter Sweet," MGM has done its best. It has spent regardless. And it has spent to the best advantage. Novel devices in the field of entertainment are introduced, and successfully. It seemed to be a fact the two chief players were unusually generous with their voices, yielding good satisfying measure.

The theme of the picture was Eddy in the role of music teacher and MacDonald as the pupil, with the pupil slated to marry a local sap and the teacher returning to his own country. A cog is slipped in the arrangements and the marriage does not come off. Instead there is an elopement, with the two singers returning to Vienna. Happiness is ideal but recurring hunger furnishes the bitter with the sweet.

Happy ending there is not. The finish is of tragedy, the bridegroom meeting his death in a duel that lasts long enough for the soldier to make a thrust that the singer cannot parry. George Sanders is Baron von Tranisch, Viennese staff officer bounder. He is most convincing in his villainy and what have you. Ian Hunter is Lord Shayne, the Englishman who aids the widow and who probably in the view of the women spectators furnishes a ray of hope in an atmosphere of gloom. Nevertheless he surely is a most forceful foil for the Baron.

Oliver T. Marsh, A.S.C., and his Technicolor associate, Allen Davey, A.S.C., do a splendid job. One of the features of it is the photographing of the staging of the operetta coming toward the close of the picture. The entire structure is of whitish material, the men's and women's costumes are of the same color, and the entire scheme seems to be to make things as tough as can be made for the photographers. But in this as in the rest of the picture the photography stands out.

Those who are aware of some of the things a camera can do to those who follow it will be bound to take a lot of interest in this phase of the production.

●

Seven Sinners

As a follow-up for "Destry Rides Again" Marlene Dietrich appears in "Seven Sinners." It is a worthy successor, this picture of Universal's, but of course the novelty is not present in the full flush of its initial characterization. There is no doubt, however, of Dietrich's flare for the robust type that marks the portrayal of the entertainer and mistress of the Western amusement saloon and of the cafe singer of the South Seas.

The supporting cast is unusual in its "heft." There are John Wayne, Albert Dekker, Broderick Crawford, Anna Lee, Mischa Auer, Billy Gilbert, Richard Carle, Samuel S. Hinds, Oscar Homolka, Reginald Denny, Herbert Rawlinson, James Craig, William Bakewell, Antonio Moreno, Russell Hicks and William Davidson.

Rudolph Mate, A.S.C., was director of photography and Jack Otterson was art director. Tay Garnett directed.

●

Lady with Red Hair

In "Lady with Red Hair" Warners has an undoubted hit. It's another one of those biographical hits, which seem to be unfailingly popular—when well done. Miriam Hopkins was abundantly temperamental to fill the shoes of the woman known on two continents as Mrs. Leslie Carter and in the picture as Caroline Carter. Miss Hopkins made the character live and breathe.

Claude Rains, who took the part of David Belasco, gave a rare performance. It was not a simple or an easy task that fell to him. Belasco was temperamental-

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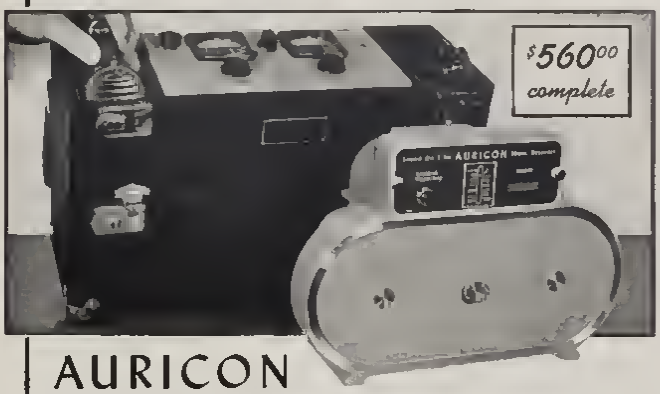

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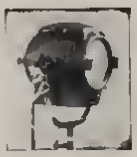

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too, even as the red-headed woman. By no means did it require a major upset to precipitate a real quarrel between the two.

One of the rare occurrences in the list of biographical films is the installing as technical director of a man who for thirty-six years was the husband of the woman being portrayed as the heroine of the story That was Lou Payne, who incidentally through Richard Ainley was one of the principals in the tale.

There can be no question as to the authenticity and accuracy of the information contributed to the director by the technical director, both as to Belasco and Mrs Carter as well as to himself. We repeat, the action was unusual and most commendable.

Arthur Edeson, A.S.C., was director of photography, a splendid, even brand; a brand of which the observer is unconscious

●

Escape

It is a sombre picture, this MGM adaptation from Ethel Vance's novel, "Escape." It has strength, undoubtedly, even if it does not have novelty It goes back to the sleeping potion of Juliet, administered to a mother portrayed by no less an actress than Nazimova. The subject is another in the series of anti-Nazi films, this time introducing a young American seeking to find his mother Robert Taylor plays the young American

Norma Shearer is the American-born Countess von Treck, who takes her liberty in her own hands to help the young man Conrad Veidt is a general, presumably a German, an admirer of the Countess and one who finally catches up with the American.

That is a big four, in all truth. There is another pair of actors who can play such parts with conviction as fall to them in this film—Felix Bressart and Albert Basserman Philip Dorn plays a sympathetic doctor in Nazi uniform Then there are Bonita Granville, Edgar Barrier, Elsa Basserman, Blanche Yurka and Lisa Golm, who splendidly sustain the principal character parts.

Robert Planck, A S C, directs the photography in a picture in which much of the lighting is of low key as well as of a story that is heavy by design, although it is of swift as well as a happy ending.

●

Remedy for Riches

This Stephens-Lang production for RKO-Radio release featuring Jean Hersholt varies its usual routine and portrays its star not as a medico taking care of the health of the town It shows him as an even wider friend of the man in the street. A promoter visits the town, buys land to build a hotel, and when he breaks ground for the development discovers oil, so he says

Dr. Christian is skeptical regarding the singular discovery and starts a check-up Melodrama develops fast, as the doctor sends for an expert friend of his The check-up starts, but the expert lands in jail on a trumped-up charge before he has a chance to report The swindler collects the money from the townspeople, but the doctor lands him in jail before he gets out of town.

There's a crew of first-class character players in support Among them are Edgar Kennedy, Jed Prouty, Walter Catlett, Maude Eburne, and Margaret McWade

John Alton, A S.C., directs the photography. Like its predecessors in the series, that is uniformly smooth.

●

You'll Find Out

Kay Kyser's RKO-Radio mystery comedy with music steps from chills to laughs—and back again The band leader and radio man through Director David Butler has conceived and executed a novel brand of entertainment that will be liked—much. "You'll Find Out" has not one horror maker, but three. Boris Karloff, Bela Lugosi and Peter Lorre The romance is taken care of by Helen Parrish, the deb, and Dennis O'Keefe, Kyser's manager

Sandwiched in through the entertainment are musical numbers contributed by Kyser and his artists Ginny Simms and Harry Babbitt, his leading singers, do their full part. Also worth while are the comedy work of Ish Kabibble and

Sully Mason as well as [illegible] identified dog

Frank Redman, A.S.C. is director of photography, and special effects are in charge of Vernon Walker. Both have much to do and it is well—and spookily—done

•

Gallant Sons

Although there is a militant or even military suggestion in this title, no such angle is connected with it. It is a story of college boys, bent on righting a wrong. They take unusual means at least of accomplishing this end. In the view of some it may be improbable but there can be no doubt it is interesting. At times it is near to gripping in its intensity.

Ian Hunter, Gail Patrick, Jackie Cooper, Bonita Granville and Gene Reynolds are the principals.

Sidney Wagner, A.S.C. directs the photography. It is excellent.

•

Barnyard Follies

Republic Pictures in "Barnyard Follies" puts on an honest to goodness countryfied show. From Rufe Davis down it is one of the greatest combinations of bucolic fun that ever has been got together.

Besides Rufe Davis whose talent as a comic is undisputed, there were in the cast Mary Lee, June Storey, Jed Prouty, Victor Killian, Joan Woodbury, Carl "Alfalfa" Switzer, Robert Homans and Dorothy Harrison. From the field of radio came Harry "Pappy" Cheshire, Mary Jane and Carolyn De Zurik, the Cackle Sisters; Jim Jeffries, announcer, the Kidoodlers, themselves, Ralph Bowman and Isabel Randolph.

The appeal of the show should be general. Meaning by that, no house should be exempt from the lure of its frolicking antics, whether palace or unadorned hall with benches. The entertainers are of all ages, from two and a half years on. The youngsters will love it—and how. The oldsters? The older the harder.

Ernest Miller does the photography—and does it well. There's plenty of melodramatic action and some suspense to give the picture a 'punch," even to the wild chase around a dooryard by Rufe Davis in a big truck fast on the trail of a pony cart containing a female no longer young but far from helpless.

Philadelphia Cinema Club

The November meeting of the Philadelphia Cinema Club was held on the Roof Garden of the Hotel Adelphia, November 12, with only slightly more than half of its members present.

The contest films on Philadelphia were shown and voted on by the members. The number of members represented in the contest was very disappointing, to put it mildly. The club has a total active membership of 85 and when only five members out of a club that size come out for a contest there are a number of things might be pointed out that are responsible for such apparent disinterest.

Entries in the contest were limited to 200 feet of 16mm or 100 feet of 8mm either black and white or color. The first prize was a one year subscription to the Movie Makers magazine, the second prize one year subscription to the American Cinematographer.

The five members submitting contest films each did a fine job of filming. Three were in 8mm and two others in 16mm all color. First prize went to the club president, Carl Finger, for his splendid 16mm. Second prize was won by the club program director, Francis Hirst, who had a very well connected sequence of Philadelphia.

Come on, members! Let's have some interest in future contests! And another thing—if any of our good readers of this report have a suggestion to offer for the cause of such little interest in club contests as is reported here the Philadelphia Cinema Club would be very glad to hear from you. If any club anywhere has found a plan to stir interest in their members making pictures for contests the Philadelphia Club would be very grateful for the idea.

HERBERT E. MOORE,
Director of Publicity

Los Angeles 8mm. Club

The November meeting of the Los Angeles 8mm. Club was held in the Eastman Auditorium, Hollywood.

Vice President Larry Zeman, in charge of the meeting, reminded members of the forthcoming contest and banquet to be held in the main ballroom of the Huntington Hotel, Pasadena, on December 14.

The following were elected: President, Larry Zeman; vice president, Foster K. Sampson; treasurer, B. Bevans, secretary, Betty Barney.

Bill Millar demonstrated a new device, called "Add Plus Color," which changed black and white movies to color, through an ingenious arrangement of colored celluloid segments. The gadget can be obtained from Fridels Camera store in Huntington Park, Calif.

Pictures shown were by Members Evans, De Virgilio and Frick. Paul Cramer screened the official picnic picture.

New members taken into the club were Ronnie Sinclair, Frank De Virgilio and Charles Moore.

LEO CALOIA, Secretary.

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(Continued from Page 550)

tration department of McGraw Hill Publishing Company.

Charles De Soria joined the Ford staff at the Fair after serving two years as chief photographer for Pan American Airways. In Shanghai, De Soria had established the North China Daily's news photo department, the first newspaper darkroom setup in the Far East—and he had been a Paramount Newsreel cameraman for four years in the Far East.

F. H. Davies came to the Ford building from Times Wide World Photos. He had free-lanced in Palm Beach society pictures for New York services.

Bert Lawson, specialist in portraits, fashion photography and unusual composition shots, came to the Ford staff after working for Fashion Camera Studios, Dry Goods Economist, the New York Daily News' commercial photography department, and the radio publicity departments of NBC and CBS.

Other staffers were Frank Collins, formerly of the New York World Telegram news photograph department, Victor A. Goldman, formerly with Arthur Studios and H. Tarr studios, New York City commercial photographers, and Bill Joyce, another former commercial photographer and crack aerial cameraman.

Ebling Devised Plan

Joyce broke in as a member of the McGraw-Hill staff. Later he operated his own laboratory in Ithaca, N. Y., whence he flew over the Fingerlake, N. Y., flood areas to get a notable scoop on the upstate New York flood of 1935.

George Ebling, chief photographer of the Ford Motor Company in Dearborn, devised the ingenious plan of the Ford photographic layout at the World's Fair. It was characterized throughout by compactness, order, and spic-and-span equipment arranged according to the cardinal principle of mass production—bring the task to the man instead of letting him walk for it.

The entire floor plan of the department measured just 29½ by 19¾ feet. This space was divided into an outer and inner room, with connecting door. The outer room was equipped for final washing, drying, straightening and other finishing processes and for record files.

The inner room was divided again into two 8 by 6 feet developing rooms—each of which opened into a hallway, permitting two men to develop negatives independently of each other's lights—and a printing room. The printing room was divided in turn, by a heavy pull curtain.

This made it possible to contact-print and enlarge simultaneously in the printing room. On one side of the curtain contact-printing was done; on the other, negatives were enlarged, printed and washed. When the curtain was drawn, contact-printing could be carried on with all needed light, without interfering with the printing processes that required semi-darkness.

The contact-printing machine was an original time-saver. It was equipped with 12 separate switches affording individual control of as many lights for local "printing in" and dodging. This eliminated the usual slow method of "paper dodging."

Just a Dream

The printing room was equipped with two 5 by 7-inch Eastman auto-focus enlargers, and three wooden tanks, containing developer, hypo rinse and water for washing, respectively. These had a capacity of 600 prints an hour, and they were placed in the center of the room to permit free access to them.

The washing tank stood flush with the wall separating the printing room and the outer finishing room, and in this wall, above the washing tank, there was a chute. Through this chute the prints were passed directly into a final washing tank in the outer room—whence they were picked up and whisked on to the Pako dryer. This dryer had a capacity of 450 prints an hour.

For speed production the Ford photographers used a trademarked blotting paper — Majestic Dry-Stock — to take moisture from their negatives, and they completed the drying by means of hot air fans. In this way they could dry a negative in five minutes, eliminating the troublesome job of wet-printing.

They used 4 by 5 speed graphics—the usual newspaper camera—for news and news feature work. They used 5 by 7 and 8 by 10 view cameras for special jobs. Their quantity production was facilitated by unusually large stocks of supplies always handy in the hallway giving on the darkrooms were 80 to 100 gross of various grades of paper, and 10 to 12 cases of flashbulbs in the three popular sizes.

Through these rooms, pictures traveled from hand to hand as if on an assembly belt—and often four and six sets of negatives traveled simultaneously—from negative developing room to fan dryers, to printing room, to rotary dryer. Beside the latter dryer was an automatic straightener that performed the final operation—taking the curl out of the print.

Only Twenty Minutes

Under pressure, the photographers completed the entire process in just 20 minutes. It was not unusual, in this department, to take a picture and have six or eight prints in the mail within 25 minutes.

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Ford building They worked with four writers, under the supervision of George F Pierrot, director of the Ford press department at the Fair The events they covered were big, colorful, exceptional—the most amazing stream of special events, observers agreed, that took place anywhere in the World of Tomorrow

Record shots were used as guides to architects and engineers in construction, repairs, and finally in demolition of the vast Ford building. They will be preserved permanently in the Ford Motor Company's archives in Dearborn—a notable record of a job such as those who did it expect never to see duplicated

Simplifying Makeup for Motion Picture Films

(Continued from Page 549)

see your subject in a most flattering light. Clean the powder from the eyebrows and carefully dust the lashes. Both these will undoubtedly have to be touched up with pencil and mascara. It is best to do so

The lips may need some repairing. Edges can be sharpened. Any powder that might have fallen on the lips should be removed. A woman's lips are never powdered, except in some character parts

While on the distinction between male and female makeup—makeup for male characters is applied essentially the same as that for females, except that darker, more robust shades of grease paint and powder are used. Never use eye makeup on males, unless it is applied with extreme care and delicacy. Male characters should always have their lips powdered

Creating Lip-Highlights

A clear oil or cream, carefully applied in a thin layer on the lips, provides added charm by producing highlights. This relieves the subject of the annoyance of frequently moistening her lips. And eyelids, too, may be beautified if just a tiny daub of clear oil or cream is applied to them. Be careful not to rub this oil on and smudge the makeup. A finger tip lightly touched to each lid will suffice. Vaseline may be used in place of oil

Have the subject comb her own hair carefully. She probably will be able to do this with more ease and skill than you. Brilliantine should be applied to the hair. An atomizer would be best for this, because it would not disturb the hair

Removing Makeup

Cold cream should be thoroughly massaged into the subject's skin. When the makeup is dissolved, it may best be removed with tissues. A good old-fashioned scrubbing with soap and water will remove the last trace of makeup. It is most important to clear the pores of all color.

The cosmetic counter of your favorite department store or local theatrical makeup shop will be glad to furnish you color charts. Suggested colors for various complexions are also easily acquired. It is for this reason they are not listed here.

It is always advisable to make test exposures on short film lengths before proceeding with actual filming. These tests are easy to make and will prove valuable time and film savers

Bear in mind one important point. In making up your subject, apply your colors subtlely; beware of artificiality

"Filmo Visual Review" Makes Its Bow With Autumn Issue

The first issue of "Filmo Visual Review," Bell & Howell's interesting new eight-page magazine devoted to visual education, has just been received. We congratulate B & H on an informative publication that cannot help be of interest to the visual educator

For years Bell & Howell has devoted one page of its well-known "Filmo Topics" to motion pictures as applied to visual education. However, the acceptance of the motion picture as a vital educational tool has been increasing by leaps and bounds, and for some time Bell & Howell has had more information of real value to impart than one page could handle. Hence the establishment of the new organ

"Filmo Visual Review" leads off with an article by Professor W. Gayle Starnes of the University of Kentucky, entitled "Looking Into the Future," in which the role of motion pictures in education is discussed and analyzed

There is another special article on the use of the film by athletic coaches, and considerable space is given to brief reviews of important classroom films

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Effect of Aeration on Developers

(Continued from 564)

Effect of Sodium Arsenite and Sodium Hypophosphite

It was thought that other protecting agents, such as sodium arsenite and sodium hypophosphite might produce better stability in a developer than sodium sulfite and, by so doing, lessen the tendency of the developer towards oxidation. When a portion of the sodium sulfite in a developer was replaced by equivalent quantities of sodium arsenite and sodium hypophosphite (from mere traces to the limit of solubility of the salts) no improved protection over that furnished by the sodium sulfite was observed although the gamma-time characteristics were changed.

Effect of Developer Oxidation on Graininess

Throughout the tests discussed above, the effect of developer oxidation products on the graininess of the developed images was constantly observed. When comparisons were made of images developed to equal densities and gammas at equal effective emulsion speeds, in solutions which had been aerated to different degrees, no marked differences in graininess were noted as a direct result of the aeration.

Practical Considerations

In order to determine the practicability of employing air for agitation purposes when developing photographic materials, it is necessary to know approximately the relative extent of the developer exhaustion produced by (a) aeration, and (b) exhaustion by virtue of performing useful work in developing the image.

It is known that the magnitude of (b) is quite considerable but this can be compensated for by suitable replenishing [22, 23] with the result that the photographic properties of a developer can be maintained over prolonged periods of use.

In order to obtain a measure of the relative magnitude of (a) and (b) in practice, exhaustion tests were made with the D-16 developer in a continuous processing machine, using motion picture positive film. The capacity of the tank was 25 gallons, the rate of recirculation 5 liters per minute, and the film traveled at the rate of 25 feet per minute.

A test run was made over a period of 10 hours without aeration and without replenishing, and the test repeated with aeration and without replenishing. A study of the curves in Figure 8A and B shows that the rate of change in gamma and density with exhaustion was practically identical in both cases, showing that the aeration had little or no effect on the photographic properties of the solution. When the developer was merely aerated (without exhaustion or replenishing) no visible change in photographic activity occurred over a period of 10 years.

TABLE I

Developer	Feet per Gallon (Cumulative)	Minutes of Aeration (Cumulative)	Time of Development for Gamma = 0.35
A	0	0	12 0 Min.
A	8½	15	11 8 Min.
A	10	30	11 2 Min.
A	10	30	10 0 Min.
A	12	80	9 0 Min.
A	12	90	7.0 Min.
A	13	100	5 5 Min.
B	0	0	7.2 Min.
B	8½	12	7 3 Min.
B	13	60	7 3 Min.
B	17	80	7 5 Min.
B	24	120	7 6 Min.
B	25	140	7 4 Min.

The method of air agitation was essentially that described by Ives and Kunz [10] although the severity of the agitation was much less than that obtained by bubbling air through a tube as used in the tests described above. Also, with the machine aerator, the very small air bubbles which formed in the tube aerator were eliminated, thereby reducing the rate of oxidation for a given degree of agitation.

It is apparent, therefore, that under the conditions described, the effects produced by aeration are negligible as compared with those produced by exhaustion.

In practice, with the above machine using D-16 and motion picture positive film, replenishing is accomplished by adding developer at the rate of 225 cc. per minute when developing at the rate of 25 feet per minute, the excess overflowing into the drain. The fresh developer in the tank is compounded two-third normal strength but the normal developer is used for replenishing. In this way, any slight initial increase in activity by virtue of aeration is compensated for by the lower activity of the weaker solution.

(Continued next month)

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Among [illegible] the Photographic Society of America who attended the Nela Park special program during the Society's sixth annual convention held recently at Cleveland was William H Zerbe, staff photographer of the New York Herald Tribune

General Electric Entertains Photographic Society Meet

Nearly one hundred members of the Photographic Society of America attending the organization's Sixth Annual three-day convention at Cleveland, late in October, were guests of General Electric Institute, Nela Park

Chief speakers on the program were R. E. Worstell of Nela Park Engineering Department, W. D. Riddle of the Institute staff, and Don Mohler—photo expert with the lamp department's sales promotion division. Mr. Worstell explained the advantages of fluorescent lighting for portraiture Mr Mohler brought the group up to the moment on flash photography, and Mr. Riddle entertained the guests with a rapid-fire lighting magic presentation

Included in the group were Frank Lunn, president of the Photographic Society of America; and William H Zerbe, staff photographer of the New York Herald-Tribune. Mr Zerbe incidentally, has been engaged in photography for fifty-six years, thirty of which have been devoted to newspaper photography the last two decades to picture-taking for the Herald-Tribune.

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General Electric Develops Photometer That Cuts Error

A new photometer for application to transmission measurements where small areas are important has been developed by the General Engineering Laboratory of the General Electric Company, Schenectady, N Y. The instrument is especially valuable in such work as quantitative spectrographic analysis because it eliminates the "human element" in comparing the densities of spectral lines, thus reducing errors to the minimum.

The new photometer was developed to provide the compactness, mechanical simplicity, ease of operation, and flexibility necessary to give the best results in applications such as this The arrangement of the instrument allows the operator to see a magnified portion of the exact field which is being measured

Several apertures are provided in the screen, but these may be easily altered by changing the position of the diaphragm The slit diaphragm can be rotated to closely align the image of the spectral line with the slit aperture, and there is provision in the diaphragm for any shaped aperture to accommodate special conditions of measurement

After final adjustment, the optical parts remain fixed and require no further movement for focusing Spectral lines are focused on the screen by moving the plate plane with respect to the objective, thus the magnification always remains constant.

Other outstanding conveniences of the new photometer include horizontal plane mounting, vernier adjustment of the plane in the direction of the wavelength axis, focusing by the up and down movement of the stage, convenient location of light control devices directly in front of the operator, and convenient location of the stage, screen, and galvanometer scale so that the operator can make all adjustments from a single position

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Air Bubbles In Lenses No Indication of Inferiority

Tiny air-bubbles in the glass of a photographic lens are by no means an indication of inferior quality These bubbles are almost inevitable in any piece of fine optical glass sufficiently large to be used for making an element of a photographic lens In a lens of high quality they are few, but it is almost impossible to eliminate them entirely However, their effect upon the quality of the lens is generally negligible

How negligible may be seen by the following example· Assume an f 4 5 lens of 6-inch focus, with a diameter (at the front glass surface) of 32mm. Assume, too, a dozen bubbles (more than usual!) in the various glass elements, each bubble averaging 0 1mm in diameter

The lens-surface will have a total area of 804 square millimeters. The total area of the bubbles will be 0 0942 sq mm Thus out of the whole area of the lens, approximately 1/8700th part will be rendered less effective by the interference of the light passing through the bubbles

About 1/8700th of the total light passing through the lens may be diverted from the film If the lens is stopped down, this ratio may be increased, but in most cases the number of bubbles affecting the lens-action will also be reduced Either way, the effect of the bubbles may be considered negligible in practice

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